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## Original Articles

### CARCINOMA OF THE PANCREAS.\*

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Calumet.

Of the various parts of the body so prone to disease of one form or another, the pancreas, if we are to judge from the literature upon the subject or upon our personal experience, seems to have been made heir to an enviable immunity.

We find, however, that the dread disease cancer, both in the form of carcinoma and sarcoma, invades even this secluded and favored organ at times, though as recent a writer as Fowler in his "Treatise on Surgery" dismisses the subject with the statement that "Carcinoma of the pancreas has not yet assumed a position of sufficient importance to entitle it to discussion except by the pathologist."

It is for the purpose of presenting the clinical history of a case of primary carcinoma of the pancreas which recently came under my observation, that I wish to place before you tonight a few data which I have been able to gather bearing upon the subject.

Of new growths in the pancreas, carcinoma is probably the most frequent: adenoma, lymphoma, and gumma, being very rare. (Osler.) Among 23,611 au-

topsies from the Vienna hospitals there were 2,005 cancers, of which twenty-nine were of the pancreas, though no distinction is made as to what proportion of these were primary and what proportion secondary. From these and other statistics we may infer, however, that the disease is primary in less than one per cent.

Its occurrence as regards age is the same as in carcinoma in other parts of the body, being most frequent between the ages of forty and seventy years.

The seat of the neoplasm is most frequently in the head of the pancreas. The autopsy reports of the Vienna General Hospital, covering a period of ten years from 1885 to 1895, cite thirty-two cases of primary carcinoma of the pancreas in which the disease was found in the head in twenty cases, twice in the body, three times in the tail, and once throughout the entire gland.

The size of the tumor, as in instances of carcinoma of other parts of the body, will depend largely upon the duration of the disease at the time of observation; consisting of a small nodule or a mass sufficiently large to be palpable and impinge upon or occlude by compression

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the pylorus or the common duct, or both, causing great distention of the gall bladder or in cases with localization in the tail, involving the left kidney or spleen. Cases are reported in which, following adhesion, perforation has occurred into the stomach through the posterior wall, into the duodenum or even into the portal vein causing fatal hemorrhage. (Nothnagel.)

**Symptoms.** The symptoms of pancreatic carcinoma will depend somewhat on the stage of the disease.

(Nothnagel's classification.)

First. Functional disturbance on the part of the pancreas.

Second. The effect upon adjacent organs.

Third. Symptoms of metastases or general carcinosis.

Disturbances of digestion are manifested by the usual symptoms of indigestion of indefinite origin, as anorexia, epigastric pain, sense of fullness after eating, eructation, heartburn and vomiting. The vomitus consists of partly digested food. A progressively rapid emaciation is noticed in all cases, this feature being more prominent and more rapid than in carcinoma in other parts of the body.

Jaundice is a marked symptom where the disease is located in the head, as it is most frequently, and the character of the production of the jaundice is worthy of note in that it is of diagnostic importance. It is very slow but progressive in its manifestation due to the gradual but also progressive encroachment upon the bile ducts until ultimately an intense icterus results which is permanent, accompanied by pruritus and other secondary symptoms of jaundice, such as cholemia, bile in the urine, etc.

Referring again to the pain from this disease, it is noticeable that it is frequently a referred or radiating pain as will be seen in the case to be reported, which is readily explained by a study

of the anatomical distribution of the nerve supply.

Park (System of Surgery) makes the rather surprising statement that "pain is rarely present." This view is at variance with most other writers to which I have been able to refer, and certainly is not borne out by the case to be reported, though a few cases are recorded in which pain was minimum. This peculiarity might possibly be partially explained by individual susceptibility; it being, of course, recognized that certain individuals are much more sensitive to pain than others. Nothnagel states that "the pain is so severe that it is out of all proportion to the extent of involvement."

This pain may be localized in the epigastrium or as stated above referred to the shoulders, right hypochondrium, back or chest in disease of the head of the pancreas. In the case to be reported, pain was intense and was entirely a referred pain located in the middle of the back at the level of the eighth dorsal vertebra and to the left side of the chest in the mid-axillary line at the level of the ninth and tenth rib, i. e., in the splenic area.

The character of the pain when present is described usually as very intense: boring, burning or stabbing in character. These patients frequently succumb before a tumor has acquired a palpable size, but a fixed tumor in the upper abdomen may be considered in the symptomatology, tumors of other organs having been eliminated by differential diagnosis. The growth will doubtless be large before it can be palpated, on account of its deep-seated origin.

Examination of the stomach contents furnishes little of value. Those of which reports are available show total absence of hydrochloric acid in many cases and a very low acidity in others, although the stomach itself was entirely free from disease. Diabetes and fatty stools are occasionally present, but not with suffi-

cient frequency to make their absence of diagnostic moment. Where the bile ducts are occluded by pressure or secondary disease, stools are naturally acholic. Mention is made (Nothnagel) of the size of the stools; they being very copious and out of all proportion to the amount of food ingested, due to the passage of food undigested and unassimilated from functional disturbance.

Cachexia is marked and it seems to be fairly well established by observation that it is more marked and more rapid in its manifestation in pancreatic carcinoma than of carcinoma of other organs. Apathy in advanced cases is intense, due to extreme weakness, the weakness being out of proportion to the inanition. (Nothnagel.) Blood, either in the vomitus or stools, is absent, unless perchance the growth has ulcerated through into the stomach or duodenum, when it might of course be present, but this does not occur with sufficient frequency to be of diagnostic moment and its absence is without significance.

Metastasis occurs with greatest frequency in the liver, gall-bladder and ducts, although any of the adjacent parts may be involved in the carcinomatous mass, either by adhesion or actual carcinosis, between which a differentiation must be made by aid of the microscope.

**Diagnosis.** As regards diagnosis, one may safely say that it is a disease extremely difficult of differentiation when situated in the head of the organ and next to impossible of differentiation when located in the tail, unless guessing be considered knowledge. Being situated most often in the head of the pancreas, we are dependent largely upon symptoms produced in adjacent organs rather than upon symptoms on the part of the pancreas itself. The cardinal points which might lead to a correct diagnosis are jaundice, with its consequent manifestations in the liver and gall-bladder; tumor, referred pain, cach-

exia, emaciation and the chemical changes in the stools and urine caused by alteration in the pancreatic function.

When both jaundice and tumor are absent, a correct diagnosis is probably impossible. The definite characteristics of the jaundice must be borne in mind; that is, that it is gradual but progressive in its development, and when once developed is chronic in contra-distinction to jaundice of gall-bladder disease which is more evanescent. A similar jaundice may, however, be caused by flexure of the common duct or the progressive contraction of inflammatory adhesions. Jaundice may also be slow but progressive in development from concretions which at first merely narrow the common duct but ultimately close it, as they increase in size by accretion. The jaundice from gall-bladder disease is, however, more rapid in its development and less likely to be chronic. The history of previous attacks of biliary colic would be of service. The gall-bladder in chronic gall-bladder disease is likely to be atrophied and the liver enlarged while in pancreatic carcinoma, the liver undergoes no change until secondary carcinosis occurs and the gall-bladder may be much enlarged from its engorgement with bile.

Tumor can be demonstrated in from one-fourth to one-fifth of the cases, and here confusion is likely to arise between pancreatic tumors and tumors of the pylorus, duodenum or tumors of the gall-bladder or ducts. The principal point of differentiation available is the fixation of the pancreatic tumor as compared to the mobility of others. If the tumor is in the tail of the pancreas, we have but one differential point, which is its fixation and here also must be borne in mind tumors rising from the upper pole of the left kidney or the suprarenal body. The presence of diabetes and fatty stools, in conjunction with other symptoms, is suggestive, as well as the

rapidity with which cachexia and emaciation occur. An X-ray examination might be of some assistance.

The course of the disease is rapid, many of the cases succumbing in less than six months from a high degree of marasmus.

The treatment from the medical standpoint is purely symptomatic, and from the surgical is not encouraging, though within the past two or three years more advancement has been made in its surgical treatment. Medical treatment enables us to relieve but temporarily the digestive disturbances.

Pain is the symptom for which the most urgent demand for treatment is made, and for this we must resort to the usual opiates. The X-ray might be tried in these cases for the relief of pain as in other cases of carcinoma, but I cannot speak from experience as to its efficiency.

When an early diagnosis of cancer of the tail of the pancreas can be made, a resection of the splenic end offers good chances of recovery from the disease without serious interference with the digestive processes. Carcinoma of the head of the pancreas offers less hope of relief from surgical intervention.

The first case of operation for pancreatic cancer was reported by Prof. Ruggi of Bologna in 1889. This proved to be an adeno-carcinoma of the tail of the pancreas in a woman of fifty, who made a good recovery. A few other cases are on record for removal of cancer of the tail, but they present no especial points of interest clinically. If relief is demanded on account of gall-bladder distention and absorption of bile, cholecystotomy or cholecystenterostomy may be performed.

In connection with this subject, I should like to present the history of the following case:

Male, 44 years. Miner by occupation, had worked steadily up to June, 1906, though for

some weeks previous to this had complained of some diarrhea and indigestion. In June he was obliged to give up work because of weakness which he attributed to indigestion. During this time he had pain periodically in the epigastrium and left side of the chest and some diarrhea and was treated symptomatically for stomach trouble by several physicians. Under this treatment he improved and was able to return to work until Jan. 1st, 1907, when he was again obliged to stop on account of increasing weakness and pain, the pain being principally in the left side of the chest and was attributed by him to a blow which he had received on the chest some weeks or months before.

He came under my care about the middle of January, 1907, at which time he was greatly emaciated, extremely weak and slightly cachectic. Pain was extreme and was entirely referred, being localized very accurately in the middle of the back at the level of the 9th dorsal vertebra and to the left side of the chest and in the mid-axillary line at the level of the 8th and the 9th rib. Constipation was marked and the stools rather light in color though not acholic. The abdomen was retracted, no tenderness present on pressure and no palpable tumor.

I have access to the results of two examinations of the stomach contents made previous to the time he came under my care which are as follows: The first made July 19th, 1906, showed free HCL absent, total acidity 4, organic acids 2. Microscopic examination showed nothing abnormal. A second examination, made July 26th, again showed a total absence of HCL and a total acidity of 4. Microscopic examination showed the presence of some yeast cells. An examination made January 2nd, 1907, showed free HCL 4, total acidity 17, lactic acid negative. These examinations being far from conclusive, do not point to anything more definite than an aggravated hypochlorhydria.

Following these examinations he was treated symptomatically, without improvement, and continually lost ground and suffered more and more from intense pain.

An X-ray examination made shortly after, revealed the presence of a tumor in the upper abdomen, lying to the left of the spine. The shadow cast was fairly distinct and showed no movement with respiration but was not sufficiently clear to enable us to determine as to its origin.

On February 22nd, an exploratory operation was performed. An incision about four inches



long was made through the outer border of the left rectus above the umbilicus. Investigation of the abdominal contents revealed a mass the size of a large orange, having its origin in the tail of the pancreas, intimately adherent to the upper pole of the left kidney and firmly adherent posteriorly. On account of these conditions the tumor was considered to be irremovable. In an attempt to remove a section for examination, I broke into a broken-down area of brain-like consistency which rendered closure of the abdomen inadvisable for fear of sloughing and infection. A Miculicz drain was therefore inserted and the

abdomen closed around it as far as possible.

The patient showed no ill effects from his exploration and the wound closed in gradually behind the drain though not entirely closed when the case was terminated. He continued to lose ground, became extremely weak and emaciated and suffered most acutely, death occurring on March 22nd, one month following the operation.

Post mortem examination revealed no secondary carcinosis and confirmed the findings at the time of operation. Pathological examination showed the case to be one of primary adenocarcinoma of the pancreas.

### DEMENTIA AMERICANA\*

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Within the past few months in a neighboring state a criminal trial has attracted an almost national attention largely due to the prominence in public life of the victim and to the wealth and unfavorable notoriety of the accused. In the course and management of this trial one of the distinguished attorneys coined for the occasion a new term or classification in the realm of mental diseases. To this particular case, i. e., the accused, he applied the term "Dementia Americana," and so apt did it seem that it became the common property of all the newspapers and a glib term of reproach on the tongue of many who were inclined to comment on the conduct of similar trials should the defense be insanity or any other impairment of the mental faculties. What did he mean and what does the general public understand by the term which has come into such sudden demand in the non-professional world as designating a characteristic or fault of what is known as the American people? It practically amounts to this—

that it is a privilege assumed by the citizens of the United States in certain circumstances to be their own prosecutor, sheriff, judge, jury, executioner.

In our boasted state of civilization and advancement, how should such a relic of savagery and primeval animalism linger and be seriously tolerated by our commonwealth and exemplified by our judiciary? We must remember that the judiciary decides trials and makes judgments as popular feelings demand, i. e., interpretations of the law vary from decade to decade as civilization varies and hence we must look to our social body for a solution of the question.

Are Americans entitled, more than the inhabitants of the other countries, for instance, the European countries, to a special type of mental infirmity, and if so, what occasion arose at this particular time to bring forth this sudden comprehension of a national characteristic? Has the fault always existed and were our people so dull as not to be cognizant of it until this year, or has it simply been tolerated as a relic of savagery as are our native Indians and like the

\*Presidential address delivered at the Annual meeting of the Kalamazoo Academy of Medicine, Dec. 10, 1907.

Indians to become noticeable by rapid disappearance?

We must first define the American people and for this paper will limit our observations to the United States. If our people have a particular form of dementia or mental impairment, they should differ from the inhabitants of other countries, or social environments and regulations should be different. Let us briefly examine into the development of our population, looking for a possible source of social fault. National and social characteristics are matters of slow growth and we must look well back if we would arrive at an accurate comprehension of these traits. Our country, to begin with, as every school-boy knows, was only a few short years ago the home of a race of savages of which the world has seen no equal. Our New England ancestors, who had little to contend with in peaceful old England except matters of religious belief, were at once put in a position of bloodiest warfare with the most unrelenting foes known to mankind. This continued unceasingly until the Revolution, throughout New England, New York, Pennsylvania and Ohio. The early Dutch in New York did not meet such warlike native Americans but their former peaceful and quiet life instantly became one of strife and daily warfare with both the English and the Indians.

The Cavaliers in Virginia and the Huguenots of the Carolinas met every bit as fierce and murderous an opposition as did our New England forefathers. After these came the rapid influx of the negro into the southern portion of the United States, and we have a rather inconsistent array of circumstances in the beginning of this country as regards liberty, and fair dealing among men relative to the respect for what we now know as law and order.

Then followed the long and bloody war with their old constant foes and the

British, in which every able-bodied man from one end of the country to the other necessarily took part and became an adept in the art of using arms. In the period following the Revolution up to the Civil War the whole country was practically one vast military camp, i. e., every man owned weapons and carried them at will, every household had its full complement of rifles which, to be sure were mostly used in providing for the family or in hunting; but when occasion arose as in the war of 1812, the Mexican war and on the frontier in the constant war and struggle with the aborigine, it was found that our people had developed an astonishing ability and familiarity in the use of these death-dealing instruments.

The second immigration may be said to have been the Irish to New York and neighboring seaport towns between 1820 and 1850. They came fleeing from oppression of the worst possible kind, and were quite inclined to regard the government as only an oppressor.

The Scotch in lesser numbers came to the middle west, and just a few years before the Civil War the Germans began to seek freedom.

Then came the terrific struggle of the North and South with all of its disregard of law and order so graphically described in one word by a most famous soldier and statesman of the period.

Following this war came what we may empirically call the third immigration. The Germans in greater numbers began to move westward and following the Franco-Prussian war, transportation companies could scarcely furnish accommodations sufficient to meet the rush. Of course, numbers from other European countries came steadily all the time. About 1890 a change in the general character of the new arrivals took place, and this brings us to a period which we may designate as the fourth immigration. This is the present era

or the era of the Hun, the Italian, the Pole, the Russ, the Scandinavian and the Hollander.

The latter two come from peaceful and law-abiding countries, but the Pole, the Russian Jew, the Italian and the Hungarian come from oppressed lands, and do not regard the government in any light but that of a taskmaster to be thwarted at every turn.

Let us glance at the magnitude of this addition to our numbers from European countries. Prior to 1900 the largest immigration was from the British Isles and Germany, the latter country giving us the greatest number steadily, as great as two hundred and fifty thousand in one year. Our census in 1900 gave United States ten million foreign born and the rule of newcomers since that time has been a million a year, and now it seems likely to pass that point. In the spring of 1906, in four days fifty-two thousand immigrants were landed in New York alone, and last year in one day twenty-five thousand persons passed through Castle Garden. Thus it is easily estimated that there are at the present time in the United States at least twenty millions of foreign people.

Have we assimilated and can we assimilate this mass of humanity to the standard of the old immigrations or to a higher standard than the normal status of the immigrant? Prior to 1900 not very energetic means were employed by the government to protect the country from undesirable citizens except the Chinese Exclusion Act, which was not bred in scientific minds, but in the dream of political bosses of the Pacific slope. Magazine writers and newspaper enthusiasts had for years flooded the country with the slogan, "Let them come. There is room for them all and opportunity for them all to become Americanized."

But decade by decade it is evident to anyone that this is a fallacy. At the close of the Civil War the addition of

about four million negroes was practically a huge immigration into the country south of Mason's and Dixon's line. They were given citizenship and have they ever been assimilated? They are today disfranchised, their citizenship practically taken away, and the Americans, or those who would assimilate them, have given the task up in utter despair. They show a criminal record and criminal tendencies that are simply astonishing. Of 7,386 people charged with murder in the United States in 1890, 2,739 were negroes and 1,213 foreign born. Therefore one-fourth of the population at that time did four-sevenths of the homicides, leaving 3,434 homicides for the remaining forty-five million people, or practically one to fifteen thousand American born and one to every forty-five hundred negroes.

The large majority of immigrants from all countries coming to the United States are almost certainly of the poor classes, and the national government has been under the necessity of establishing a system of most rigid supervision in order to turn back the helpless and undesirable. From the million annually coming, twelve thousand are sent back as criminals, paupers, insane or invalids from physical ailments.

Can we say that all of these people with their old country customs, virtues and vices have been absorbed and converted to a distinct type as rapidly as immigration has increased? One or two illustrations will easily demonstrate the erroneousness of such a belief.

From the United States census of 1904, I quote 28.8% of all white criminal prisoners as foreign born, while only 21.9% was their percentage in number to the general population. New York state, absorbing the greatest number of immigrants, shows in 1875 a ratio of one insane person to every 675 of the population; in 1904, one to every 294. In 1906 46% of the whole number of admissions

to the New York asylums were of foreign birth while the foreign born represent but 26% of the population.

On October 13, 1907, there was published in all the prominent daily papers a news item to the effect that for a period of 24 hours no murder had been reported in New York city. This was accounted as a most rare bit of news equal to the record breaking of the newest trans-Atlantic steamer.

We thus discover that we are receiving an inferior race of people, whether made so by hardships and poverty or inherently so it matters little. In examining the characteristics of the immigrants after settlement we find that they form colonies as much as possible and reproduce the old home surroundings to the best of their ability.

The Jews in New York huddle in their new ghetto. The Huns flock to the squalor and poverty of the coal mining regions of Pennsylvania; the Poles and Italians form colonies in our large cities and show little ability above that of the poorest laborer. Those of Anglo-Saxon birth, it would appear, have been more easily convertible to the ideal citizen of our great republic. I have not mentioned the Irish member of our family as he has been one of us from the beginning and is always ready to be assimilated and converted to any circumstance and situation. What is then the standard of American mentality? Is it not evident that with such a diversified people the standard of mental qualifications must vary and at the same time the character of mental impairment? Would it not seem that our mental impairment, other things being equal, would correspond to the mental impairment of those nations whence our immigrants are drawn?

A careful study of the types of insanity in other countries shows only the differences due to local social regulations. Thus in the British Isles we find

very free and unrestricted sale of intoxicants and 26% of the insane are alcoholics. We do not have as large a list of historical insane as our European neighbors can boast of, but for the time that we have existed we can boast of a favorable contemporaneous list. We are also free from the curse of degenerate royal families made so by state marriages and unlicensed dissipation. But in their place we have the corresponding degeneracy as a sequence of the marriage and intermarriage and dissipations of our extremely rich. Although our country is young, this class has especially in the eastern part of the United States shown rather startling development in numbers, an astonishing liability to degeneracy and as great a capacity for dissipation as their royal neighbors. We have also our vast army of hoboos and tramps, a class not so prevalent in Europe. From among the younger portion of this class of our defectives the regular army in times of peace enlists many, and hence the enormous ratio of desertions.

France shows a much smaller percentage of insane from syphilis by reason of the governmental regulation of this disease, and so on each country will show a characteristic of its own due to some social or legal requirement. In turn we may ask ourselves, if our nation is made up of all these characteristics intermingled, then we must look to some social or legal condition that will permit us to acquire an unusual type of dementia, so-called, for 'tis evident that it is not to be credited to the individual. What then is this social or legal condition which is so characteristic of the American people and because, if such, is such a theme of criticism by our neighbors?

The Dementia Americana, so coined by this attorney, as a term of derision or criticism of a characteristic of our people, is, as before mentioned, the gen-



eral sanction given to every American citizen to be his own judge, jury, executioner, under certain conditions. In the whole civilized world the law contemplates the defense of the person or family from attempted destruction or murder by justifiable homicide. In the early years of our country the laws were English and the basis of all our laws today are English. English laws permit a justifiable homicide only strictly under the above definition. We have seen, however, that from the birth of this nation to the present time, it has been the custom of almost all men to be familiar with weapons, and of most men to carry them for protection. Why? First, because of the many foes daily encountered; second, because of the weak administration of the laws and the almost absurd performances known as court trials. I, of course, refer to trials for murder, such as the trial in which the term *Dementia Americana* originated. The bounds of the justifiable homicide were, in the early years of this country stretched even beyond the breaking point. The native Indians were ruthlessly slaughtered for the most trivial offenses and the acts condoned by local authorities. An old resident of Kalamazoo has told me that in the early days of Kalamazoo two Indians one morning were found to have killed a cow belonging to a citizen of the village, and were dressing the carcass at the foot of the hill on West street. The citizen being informed of the circumstance proceeded at once to the spot with rifle in hand and shot both Indians. All our frontier life has been marked by just such crude administration of justice.

The gold excitement of California found the local judiciary wholly inadequate to manage the situation, and the vigilance committee of San Francisco of the '49 days, was a typical example of the assumption of the mechanism of the courts by an unauthorized people. The

germs of lawlessness implanted in the Golden City at this period yielded a rich harvest on the occasion of that fair city's first serious calamity last year.

Even today in all large cities, strikes in the interests of unions are such everyday exhibitions of the disregard for law and order and are regarded with such favor by the general populace, that destruction of property, violence, injury and even murders are commonly accorded to be the usual accompaniments of this particular phase of our social life. The Haywood trial, with its long list of assassinations, murders and so forth, is yet a favorite theme for magazine writers. Even in our own Kalamazoo in the past year we have had evidences of the same spirit.

The South in its attempts to manage the negro is a familiar situation to us all. No longer do lynchings, so-called, have any occasion for remark; it is only when a lynching does not occur under certain conditions that anyone takes notice. Immediately following the Civil War, the "carpet-bag" epoch, the Klu Klux Klan and its assumption of the functions of judge, jury, and executioner, were potent factors in remoulding a sentiment averse to the law and rights of man. The primitive conditions of life, the weak local government, the moonshiner, the feudist, brought about a state of affairs in Kentucky which has tended to destroy all respect for law and order. Similar observations might be extended over the whole country showing the consequence of a weak administration of the laws, the results of the election of the judiciary for short terms, the influence of political parties and politicians and grafters of all kinds who seek to influence the conduct of trials of justice.

The fierce contests of lawyers are such that often the decisions of the court rest simply with the party stronger in legal talent and not by virtue of the scale of

justice. Witnesses are regarded by the legal contestants as merely so many pawns to be moved about court, some to checkmate opposing witnesses, others to be used figuratively as clubs to beat down weaker foes. Thus has arisen the deplorable spectacle of the use of expert witnesses and especially those relating to medicine.

This custom of conducting trials and this spectacular and undignified and unfair treatment of witnesses is of such long duration and of such common practice that it is looked upon as complacently as a lynching in the South. Thus has come into almost universal and great popularity the conception and use of the unwritten law. The unwritten law did not originate in this country, and it is as old as time itself, being really a relic of barbarism, and its use and observance in some other and better governed countries is reduced to a minimum while in our own its exploitation is observed in almost every daily newspaper. One of the popular novels of the season listed in today's advertising bulletins from one of the great book-publishing houses treats of the unwritten law in high life in New York, and its sales have already passed the 800,000 mark.

The unwritten law as practiced and approved in this country is really a quasi-justifiable homicide. Its practice and general approval have been of slow growth and the result of the exigencies of the rapid development of a new country and a weak executive feature. Crimes which are justified in the name of the unwritten law are known as crimes of passion. It might be truly said that all crimes are crimes of our passions, as of love, ambition, cruelty, and so forth; but in this connection I refer to crimes resulting from the passion love and its accompaniments, jealousy and vengeance. These passions beset the mind with more force than any others known, and result in crimes of an impulsive

character or in an obsession or irresistible impulse and as a sequence of these what appears to be a deliberate murder. The first are usually committed by men of quick tempers and impulsive natures, born fighters, as it were; the latter by the individual who can develop an obsession, namely, the degenerate, in a greater or less degree the half-insane, the semi-responsible of whom there are many in every community.

Prof. J. Grasset, of the University of Montpellier, France, in his recent monograph "Demi-Fous and Demi-Responsables" would not adopt the generally accepted classification of sane and insane by hard and fast lines as is done by our courts; but would make a classification shading from normal psychism to dementia, limiting the responsibility to demi-responsibility—limited responsibility—attenuated responsibility or in common language rate the mental capacities of the race not as all sane or insane; but as sane, half insane and insane. In this class of half insane he places many noted historical characters and men of genius. Such men as Pascal, Balzac, Hugo, Moliere, Byron, Tolstoi, Newton, Darwin, Schiller, Chopin, Cromwell, Goethe, Mozart, Beethoven, Ampere, Napoleon and many others showing unusual brilliancy of mind in some directions and decided weaknesses in some others. Controversy over this subject springs largely from the lack of definition as to what is mental impairment, and what is mind? Answers to these questions vary as do the professions and learning of those who attempt to give the definition, be he alienist, judge, theologian, philosopher or what not.

The crude and unscientific methods by which our courts measure the mind do not take any cognizance of these conditions and hence the prisons of the country receive the obsessional criminal or the verdict of justifiable homicide gives him his freedom. In Massachusetts

from 1895 to 1900, 778 persons were transferred from the prisons to the asylums; 24% of the life men in the New York prisons are in the criminal asylums. Is it anything strange therefore, that this country of ours, being subject to so many and such unfavorable social conditions, should appear to our legal friend as developing a special type of mental disease so glibly styled *Dementia Americana*? 'Tis said that he who criticizes the existing order of things should offer the remedy and I will therefore conclude with the following propositions:

1. The degenerate and half-insane should receive recognition as such by the courts.

2. Prisoners of this class should not

be committed to either an asylum for the insane nor to a penal institution; but there should be schools and institutions especially designed for their detention, care and training.

3. The use of medical experts by the courts should follow the example of Michigan and Connecticut which provide for the appointment of experts by the judges and their instructions to aid him rather than to be contestants in the case.

4. All criminals should be passed upon or examined by an alienist before being sentenced.

5. All prisons and reformatories should be under the supervision and control of alienists and teachers rather than politicians.

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The Caduceus, or the insignia of the Medical Department, is of long standing, having been tested for centuries and keeping place up to the present time, states *turies* and keeping pace up to the present time, states the *Army and Navy Journal*. In the earliest Greek art the caduceus was but a magic wand, without ornamentation. Adorned with laurel wreaths it represented victory. Later as a collection of pleasant traditions concerning the power of the wand and about the gods who carried it, grew up, it became customary to represent it with two serpents—the serpent was typical of wisdom—twined about it. Aesculapius, the son of Apollo, was not the only god carrying the caduceus as his symbol of authority. Mercury on one of his errands from Olympus, saw two snakes fighting. Since it was his business to settle such disputes, he caught up the snakes, twisted their tails together and twined them about his staff. In later mythology, when the other attributes of Mercury were diminished, and that of his office as Olympian messenger

was magnified, it became customary to represent him in art as wearing winged sandals and a winged fillet about his head. It was natural, then, later to add the spreading wings of his staff and thus complete the idea of his swift passages upon the errands of his father Zeus. It can readily be seen how the wand with its serpents and wings representing magic powers in earth and air could be taken up as an emblem of healing. The wisdom of the creeping serpent was supposed to have enabled them to search out vegetable bodies having healing powers. The men of the Middle Ages, when all healing was thought to come about only through the agency of incantations and various charms, when the world was indeed half pagan, continued to use the caduceus as the sign of the healing art. "From millenium to millenium, from century to century, from decade to decade, from year to year, the caduceus has kept the first place to indicate medical efficiency. Could there be a better emblem for the Medical Department of the United States Army?"

## SERUM DIAGNOSIS IN TYPHOID FEVER.

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Among all the phenomena of serology and the knowledge we have thus far learned concerning reactions to bacterial products, it seems to me that few offer greater promise of practicable applicability than that of bacteriolysis. As a means of ascertaining the identity of an infecting bacterium, when rendered sufficiently simple to be practical, I believe that this and the similar phenomenon of hemolysis afford a valuable adjunct to our armamentarium of diagnostics.

Since the discovery of Pfeiffer's phenomenon and the related facts concerning it contributed by Bordet, Gengou, Ehrlich, Morgenroth and Metschnikoff in the few years following, little has been added to our knowledge of this important process. No attempts to make practical use of the facts we have learned concerning the manner in which bacteria are dissolved in the blood stream have met with enough success to cause more than transitory notice.

In 1906, an impetus was given to work of this character by the announcements of Wasserman, Bruch, and Neisser, in a series of communications relating to a test for the detection of syphilitic antibodies in the blood of patients by making use of a manipulation of the various factors entering into the phenomenon of lysis. By this means they were able to demonstrate the presence of syphilitic antibodies and hence unerringly diagnose the infection in a long series of cases no matter how long since the infection was acquired. Since the announcement of their work was made,

various other observers have corroborated their findings, but very little effort seems to have been made to apply the method in the diagnosis of acute processes.

With the idea of simplifying the process if possible, and thereby obtaining a method by which acute infections may be diagnosed readily and to a certainty, a series of tests were undertaken to determine the reliability of the reaction and the earliness of its appearance with reference to some rather typical examples of an acute condition. Typhoid fever naturally suggested itself for a number of reasons, particularly because in our experience, especially in the cases we have had this year, the Widal agglutination test has proven to be singularly unreliable. Of an average of from fifteen to thirty-three cases of fever in our wards presenting the typhoid syndrome and clinically diagnosed as typhoid fever, it has been the exception to obtain a positive agglutination test. An average of about one positive reaction to every ten tests made, is about the proportion of success which has met our efforts and by investigation of the results secured at the other Detroit hospitals a similar report was obtained. But even when the reaction is positive, its appearance is comparatively late, being rarely present before the tenth day.

Other factors militating against the usefulness of this test to the busy practitioner are that it is a procedure necessitating a considerable knowledge of distinctly laboratory methods, and the



expenditure of time he cannot afford to give. With these and other objections before us, we set out to ascertain the reliability of a test for typholysins similar to that devised by Wasserman and Bruch to demonstrate the presence of antibodies in the blood of syphilitics.

The following cases are submitted as proof of our findings:

Case 1.—G. De B., entered hospital Oct. 15, had been in bed at home for nine days, Widal taken twice, each time being negative. Examination of serum for lysins positive on day of entrance. Discharged December 5.

Case 2.—V. E., entered hospital Oct. 3, discharged Oct. 25, had been in bed at home eight days. Widal positive Oct. 4. Examination for antibodies Oct. 4, positive.

Case 3.—C. L. entered hospital Oct. 4, discharged Nov. 13, sick at home four days. Widal negative Oct. 5. Examination for antibodies Oct. 5, positive.

Case 4.—L. A. entered hospital Oct. 5, normal temperature since Dec. 6, sick at home for seven days. Widal negative on Oct. 5 and Nov. 11. Examination for antibodies positive, Oct. 5.

Case 5.—J. L., entered hospital Oct. 11, discharged Nov. 14, sick at home for eight days. Widal positive Oct. 12. Examination for antibodies positive, Oct. 11.

Case 6.—S. M., entered hospital Oct. 24, discharged Nov. 28, throat symptoms for two weeks. Widal negative Nov. 25 and Nov. 3. Examination for antibodies well marked, Oct. 25.

Case 7.—O. D., entered hospital Oct. 31, still running fever, roseola present. Widal not taken. Examination for antibodies marked, Oct. 31.

Case 8.—B. C., entered hospital Oct. 31, has had relapse and is still running fever, sick six days. Widal negative Oct. 31 and Dec. 2. Examination for antibodies positive, Oct. 31 and Dec. 2.

Case 9.—Miss A. J., entered hospital Nov. 14, still running fever, sick eight days. Widal negative Nov. 18. Examination for antibodies positive, Nov. 18.

Case 10.—Mrs. W., entered hospital Nov. 15, still running fever, sick four days at home. Widal

negative Nov. 19. Examination for typholysins, positive markedly, Nov. 17.

Case 11.—D. K., admitted Nov. 16, discharged Dec. 3, no history obtainable. Widal and test for typholysins both positive, Nov. 18.

Case 13.—Miss M. C., admitted Nov. 18, temperature reached normal Dec. 9. Sick three days with fever before going to bed. Widal negative Nov. 19, partial Nov. 23, positive Dec. 4. Typholysin test negative Nov. 19, positive Nov. 26.

Case 13.—J. B., admitted Oct. 31, still running fever, no history obtainable. Typholysin test positive when taken Nov. 3.

Case 14.—H. D. L., admitted Oct. 14, still running fever, having had relapse. Sick three days before admission. No Widal taken. Typholysin test positive Oct. 15.

Case 15.—Mrs. S. Van M., admitted Nov. 11, discharged Nov. 23. Sick eleven days. Widal positive Nov. 11. Typholysins present Nov. 11.

Case 16.—H. Van D., admitted Nov. 23, still running fever. No history obtainable. Widal negative on Nov. 24 and Nov. 30. Typholysin test positive Nov. 24.

Case 17.—T. W., admitted Nov. 1, still running fever. Sick about one week. Widal negative Nov. 4. Typholysin test positive Nov. 2.

Case 18.—C. M., admitted Nov. 29, still running fever. Sick eight days. No Widal taken. Typholysin test positive Nov. 30.

Case 19.—T. K., admitted Dec. 4, still running fever. Sick three days before admission. No Widal taken. Typholysin test positive Dec. 5.

Case 20.—W. K., admitted Nov. 30, still running fever. Sick seven days before admission. Widal positive Dec. 6. Typholysin test positive Dec. 1.

#### Cases Giving Negative Test Afterward Developing Symptoms of Other Diseases:

Case 1.—O. R., admitted Nov. 17, discharged Nov. 27. No Widal taken. Typholysin test negative, Nov. 19. Diagnosis, autointoxication.

Case 2.—A. M., admitted Oct. 5, died Oct. 19. No Widal taken. Typholysin test negative. Diagnosis, bronchopneumonia.

Case 3.—W. K., admitted Oct. 3, discharged Oct. 17. No Widal taken. Typholysin test negative. Temperature normal after Oct. 8. Cause of fever unknown.

Case 4.—J. G., admitted Oct. 15, discharged Oct. 29. No Widal taken. Negative for typholysins. Diagnosis, acute bronchitis.

Case 5.—J. R., admitted Oct. 23, discharged No. 5. Negative for typholysins. Diagnosis, acute rheumatic fever.

Case 6.—J. S., admitted Dec. 7, still in hospital. Test for typholysins negative. Diagnosis, lobar pneumonia.

Case 7.—J. B., admitted Nov. 9, discharge Nov. 14. Test for typholysins negative. Diagnosis, bronchitis.

Consideration of the results of these experiments point out the following facts:

1. In every case a positive typholysin test could be obtained before microscopical examination showed complete agglutination.

2. In every case which ran a clinical course of typhoid, the test was positive.

3. In cases which afterward proved to be of a different character, the test was unerringly negative.

4. In every case of clinical typhoid the test was positive for lysins as soon as taken, except in the instance of case 12, and even in this instance was affirmative eight days before a Widal was returned positive.

5. The test could be obtained as early as the fourth day of fever.

6. No matter whence the origin of the culture of bacillus typhosus, so long as it was a reliable culture, the results were the same.

In the majority of the cases, cultures were used which had been obtained from Parke, Davis & Co. In three cases, however, bacilli were used which had been obtained directly from the blood of a patient in the bacteriemic stage of the disease.<sup>1</sup> Proof of the reliability of the method obtained, there remained to simplify the test so as to be of practical use.

Before proceeding to describe the manner in which this was accomplished, however, a brief rehearsal of the fundamental principles of bacteriolysis and hemolysis seems advisable.

It is a well established fact that when bacteria are injected into an animal, the serum of the inoculated animal very soon acquires the power of dissolving these organisms with great rapidity. The action occurs in vitro as well as in vivo. Not only is this true of bacteria, but when blood cells from an animal of one species are injected beneath the skin of an animal of different species, serum from the inoculated animal shows a remarkable dissolving power upon corpuscles from the animal against whose blood it has been immunized. This action is termed hemolysis.

Ehrlich and Morgenroth early determined that these reactions were dependent upon the existence in the blood of the immunized animal of two substances. One of these is thermolabile. That is, a temperature of 56°C maintained for thirty minutes suffices to destroy it. This substance, the so-called "something" of Pfeiffer, Ehrlich termed complement, and showed that it was present in normal as well as in immunized serum.

The other substance necessary to bring about lysis, is the result of inoculation. It is called amboceptor or intermediary body, because of its double power of combining with complement on one hand, and bacteria or blood or any other antigen\* on the other. The amboceptor is thermostabile. That is, subjecting the serum to a temperature of 100°C does not destroy it. The two factors then, complement and amboceptor must be present in a given serum if solution of the antigen is to be effected and upon their presence the theory of the test depends.

(1) The Leucocyte, Alumni organ of Detroit College of Medicine, November, '07.

\*Antigen—Any substance used as an injection.

By the investigation of the cases reported above it was demonstrated that amboceptor is produced very early after the beginning of typhoid infection and persists in increased amounts as the case proceeds to a favorable termination, and this opens the field for further inquiry. From the amount of amboceptor present cannot the prognosis of the disease be ascertained?

The methods of obtaining the various components necessary to carry out the test, as concisely as can be stated, are these:

### Serum.

Into a sterile simplex syringe, i. e., that variety used by dispensers of biological products as containers for anti-toxin, etc., are drawn two or three cubic centimeters of a sterilized anti-coagulating fluid. The one generally used for the purpose has been a 1% sodium citrate in .85% sodium chloride solution. The area over the median basilic or cephalic vein of either elbow of the patient whose serum is to be tested is rendered aseptic after the usual methods, the vein entered with the needle of the syringe, and an amount of blood equal to the volume of the anti-coagulant withdrawn by slowly drawing on the piston. The mixture is shaken and stood away to settle. After from six to eight hours the corpuscles are found to have settled upon the piston-head, while above them is a supernatant clear straw colored fluid which is approximately  $\frac{1}{2}$  serum. Or undiluted serum may be obtained from the blister formed beneath a very small cantharides plaster. Or the serum may be obtained after the ordinary method of securing it for a Widal reaction; i. e., by pricking the patient's finger and receiving the blood in a capillary tube where subsequent clotting expresses all the serum necessary.

### Hemolytic Serum.

A hemolytic serum is obtained by inoculating a guinea pig subcutaneously at about week intervals with a 5% suspension of human blood corpuscles in normal saline solution. About three injections usually produce an effective serum. The blood is now obtained from the pig by puncturing the heart with a needle attached to a simplex syringe containing anti-coagulant. The supernatant fluid remaining after the corpuscles have settled is carefully decanted and the complement contained in it destroyed by heating at 56°C for one-half hour. The fluid thus treated is then preserved from contamination by the addition of sufficient lysol solution to make a 4% solution.

### Bacteria.

Twenty-four hour agar slant cultures of typhoid bacilli are washed off with physiological salt solution and by comparison with a neblometer made to contain about 250,000 bacilli per cc. This suspension is now preserved with lysol sufficient to produce a 4% solution.

### Blood Cells.

Red corpuscles from a normal human being are now secured in a manner similar to that described for obtaining the serum from the typhoid patient. The supernatant fluid is forced out of the syringe by pushing the piston and more anti-coagulant sucked in to replace it. The corpuscles are thus washed repeatedly and are then diluted to make a 5% suspension and preserved with lysol.

### The Test.

In applying the test, .2 cc. of serum from the patient with suspected typhoid is placed in a small test tube, and to it is added 1 cc. of the bacterial suspension. The tube is kept at body temperature for one-half hour. If the patient has

typhoid fever, typhoid amboceptor will be present, and the following combination will occur:

Complement + amboceptor + bacteria = solution.

After keeping the tube at 37°C for one-half hour to allow the above combination to occur if possible, .2 cc. of the inactivated hemolytic serum and 1 cc. of the 5% suspension of blood cells are added. The tube is again placed in the incubator, this time for two hours. Upon removal from the incubator, it is allowed to stand at room temperature or on the ice for from twelve to twenty-four hours longer.

If the patient from whom the serum was taken had typhoid fever, then amboceptors were present, and the combination of complement, amboceptor and bacteria occurred. This caused the using up of all the complement of the serum. After the addition of the inactivated hemolytic serum, and the blood corpuscles, there being no complement left to enter into the combination, hemolysis could not occur and the blood cells remained undissolved.

If on the other hand the patient did not have typhoid fever, the complement would still remain, there being no amboceptor to enter into combination with it and the bacteria. It would hence be free to act when the inactive hemolytic serum and blood corpuscles were added and the following reaction would occur. Complement + hemolytic amboceptor + blood cells = Hemolysis. This is indicated by the presence in the tube of a wine red transparent fluid.

A positive reaction then consists in the finding of the blood undissolved at the conclusion of the manipulation; a negative by a "laking" of the corpuscles, i. e., the production of a wine red transparent fluid.

The simplification of the process which makes application of the test simple, is as follows:

The necessary biologic products can be prepared at the laboratories of the large drug firms and supplied in two bottles to the physician.

Bottle No. 1 should contain a suspension of typhoid bacilli of definite density (in our experiments 250,000 per cc. was found proper), preserved with lysol, and labeled "add 1 cc. to two drops of suspected serum and incubate for one-half hour."

Bottle No. 2 should contain inactivated hemolytic serum (serum in which complement has been destroyed) and 5% solution of erythrocytes in the proportion of .4 cc. hemolytic serum to each 1 cc. of erythrocyte solution. Lysol should also be used as preservative. Directions should read "Add 1.5 cc. of this solution to contents of tube which has just been incubated one-half hour, incubate two hours, and then keep at room temperature for twelve hours."

The solutions thus prepared will keep a long time without deterioration.

The application is now a simple matter. Two drops of suspected serum is added to 1 cc. from Bottle No. 1, and incubated one-half hour. 1.5 cc. from Bottle No. 2 are now added to above, incubate two hours, and then allow to stand twelve.

At the end of fifteen hours the result is known. No microscope nor technical laboratory knowledge is needed. The test is a macroscopic one.

The reaction is specific and by having other "No. 1 bottles" containing respectively dead cultures of the pneumococcus, meningococcus, tubercle bacillus, etc., the test can be employed to diagnose these conditions also.



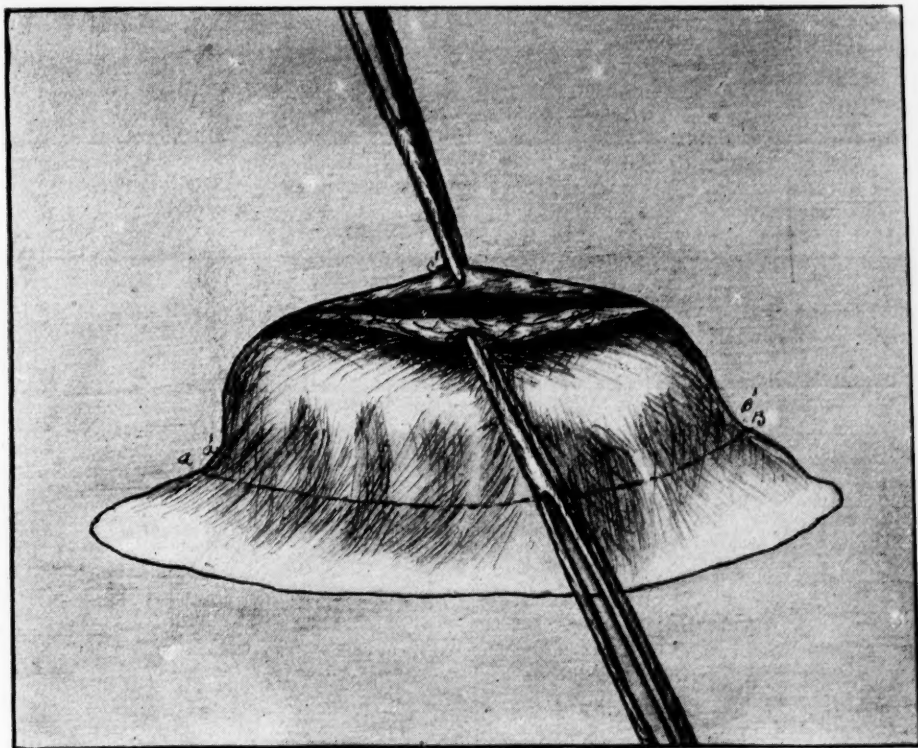
## REPORT OF AN INTERESTING CASE OF UMBILICAL HERNIA.

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The technique with slight modifications is the same as given by William J. Mayo, *Journal A. M. A.*, June 1, 1907.

Mrs. A., age 59, had suffered for fifteen years with a large umbilical hernia. About one year prior to her operation she accidentally swallowed a needle.

On June 8th I operated, using the following technique: The skin was caught and lifted up with two hemostats, as shown in Figure 1, and a transverse incision made through all the tissues down to the normal sac, which was next opened. Lying on the right side was



Her bowels were constipated, tongue badly coated, and she had developed a marked degree of auto-intoxication. For six months prior to the operation she had suffered severely from an attack of acute melancholy.

the appendix which was removed. The needle which she had swallowed had worked its way through the wall of the ileum and lay embedded in the serous coat of the intestine and omentum. It was caught with a hemostat and easily

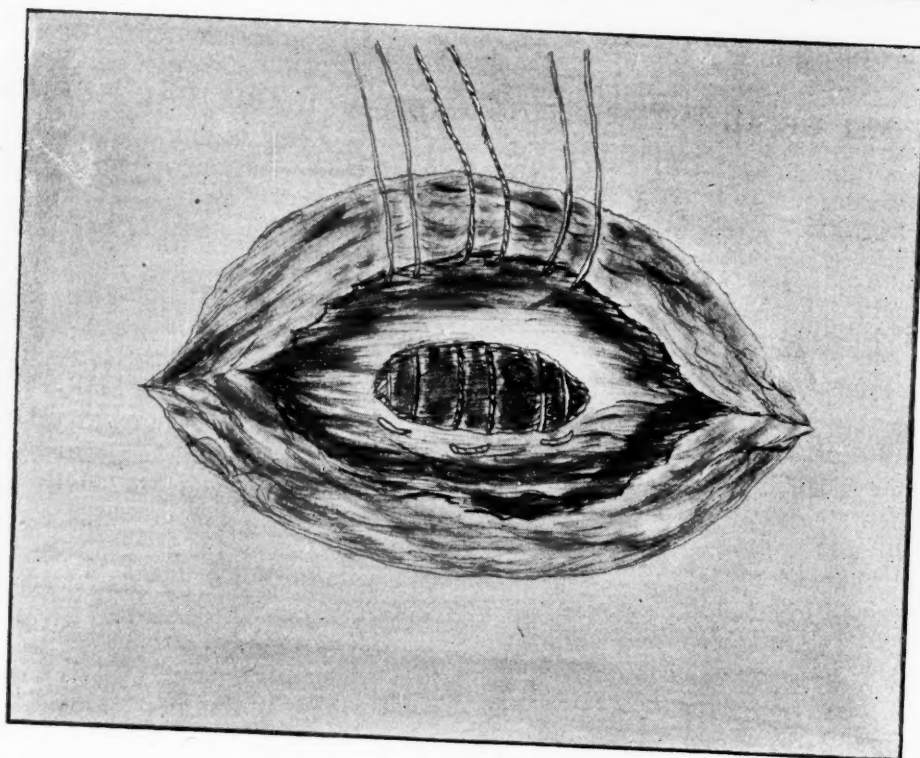


FIG. 2

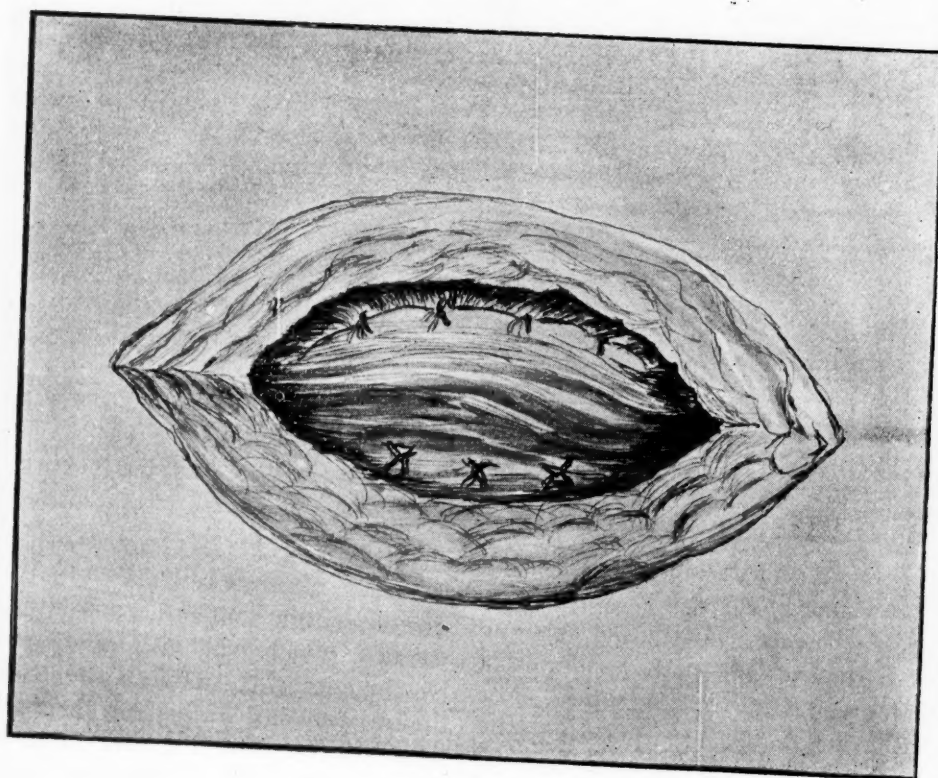


FIG. 3

removed. In many cases of umbilical hernia the anterior abdominal wall has become so stretched that the slack is considerable. In order to take up the proper amount of slack the right hand is placed below and the left hand above, the two being brought together will give a good idea of the amount of slack tissue to be removed. This is done by two transverse elliptical incisions, *abc* and *a'b'c'*. The sack with all of the adherent omentum is cut away. A curved needle carrying a kangaroo tendon is passed from without in through the aponeurotic structures and peritoneum from two to three inches above the margin of the opening. The needle and kangaroo tendon are drawn down and out of the hernial opening. A mattress stitch is caught in the upper edge of the

lower flap about one-third of an inch from the margin, the needle is returned back through the hernial opening into the peritoneal cavity and made to emerge one-half inch lateral to the point of original entrance. A sufficient number of the sutures are introduced.

The sutures are drawn tight, pulling the entire thickness of the aponeurotic and peritoneal structures behind the upper flap. The upper flap is now re-traced and if any gap exists it is closed with cat-gut sutures. The upper flap is now sutured to the aponeurosis below by continuous chromicized cat-gut sutures, and the superficial flap and skin closed in the usual manner. This patient made a perfect recovery, gaining many pounds in weight and her mental condition is as perfect as ever.

### MOVABLE KIDNEY\*

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In the early history of post-mortem work we have been told that there have been many instances where the kidney was found out of its normal position. The greater number of these cases in adult life were found in the female. A small ratio was found in children, and a few cases were found where the displacement was congenital. Anomalies of the kidneys are frequent and consist of number, form and size.

It is but a few years since a prominent English medical professor in lecturing to his class, said: "Gentlemen, I am about to speak to you of an organ which has no domain in surgery." This statement is a fallacy. Today we know the physiological function, the working

and the pathological conditions of this organ, and do not hesitate to perform any indicated operation upon it. I remember, in my early surgical career, when I anchored a kidney in proper position that I was censured for so doing by a surgeon of some years experience. The patient was suffering from a number of reflex irritations caused by the misplaced kidney.

Movable kidney is an acquired condition, and is always behind the peritoneum. The abnormal position of the kidney is designated movable when it leaves its normal bed when the patient is up and about, exercising or going through any severe exertion, or where it can be manipulated from its normal location, and where it is likely to regain its normal position when the patient lies

Read before Michigan Surgical and Pathological Society, December 3, 1907.

upon his back, or when from external manipulation it can be replaced.

Floating kidney is a congenital condition. It lies within the peritoneal cavity. It is found much farther removed from its original site than the movable kidney; it can be manipulated much more easily, and causes many more reflex symptoms than does the movable. The floating or wandering kidney may be found in any part of the abdominal cavity, and has frequently been found in the pelvic cavity.

Movable kidneys may be designated displaced, ptosis, dislocated, fallen or dropped. They are found more often upon the right side than upon the left. Where there is congenital fusion of the kidneys there is apt to be a displacement, and if surgical interference is thought of, we must be sure that there is a second kidney. If we do not make sure, we may leave the patient without a kidney. An instance has been known where this took place. Polk recites a case in the *New York Medical Journal*, 1883, vol. 37, page 171. The patient lived some days after the operation. Fused kidneys are also known as horse-shoe kidneys.

Under etiology are usually mentioned pregnancy, child bearing, accidents, and direct and indirect trauma. Indirect trauma may result from vomiting, severe attacks of coughing, flatulence with marked gastric disturbances, and we may have movable kidney from a rapid loss of flesh. Direct trauma may result from severe attacks of vomiting where the diaphragm is forced directly against the kidney, a quick or sudden physical movement with a direct force against the region of kidney and from falling or being thrown from a height.

Symptoms are lassitude, backache, dragging sensations in back, thigh and leg, gastric disturbances, constipation, diarrhea, pain radiating to different parts of the abdomen down groin upon side

of kidney affected, and down leg and around hip joint. In children this might lead you to suspect coxalgia and urinary disturbances.

**Diagnosis.**—One should remember that the kidney is not a fixed organ, but is moved by the respiratory act following the diaphragm, and one point in diagnosis is when we are able to hold the kidney from following the diaphragm during expiration. The physical examination should be thorough. There are several methods. When the patient is standing, double palpation, one hand placed firmly against the back just outside of the erector spinæ, the other hand manipulating abdomen in front, allowing it to follow the abdominal movements of inspiration and expiration, so as to know when the outline of kidney is felt how far it leaves its normal bed. The "dipping" process may be used here but it is not as effective as when patient is in the knee and hand position. If patient has a large, thick, pendulous abdomen, sometimes it is a good plan to place him upon knees and hands with the examiner's hands in same position as above, then with the "dipping," one can easily bring kidney forward against abdomen and readily make out its outline. In above position inspection with pressure below the twelfth rib will give you a lax condition of muscles upon side of kidney displaced. Upon opposite side where kidney is in correct position, the muscles will be more tense. This condition is easily seen and felt. Pressing upon the outer edge of the lumbar muscles one can feel that the kidney has left its bed, and with the eye can see that there is a marked depression.

In all examinations of malposition of kidney where the diagnosis kidney displacement is made, there is never likely to be an error. Errors are made only when we have tumors about the site of kidney. These may be mistaken for kidney, but kidney is never mistaken for



tumor. There may be one condition in which we should use a little caution. That is, the so-called corset liver. One method of examination is to place patient upon the back and manipulate the same as we did in the other two methods. Another is, place patient upon the side upon which affected kidney lies, with the legs flexed upon the thighs and the thighs upon the abdomen with trunk dropped forward. In this position the one hand at the back will press the kidney well forward, and it can be manipulated with the other hand quite readily.

**Prognosis.**—Fairly good, but depends upon correct treatment.

**Treatment.**—If there is any constitutional diathesis, it should be corrected. If there is emaciation, normal nutrition should be established. If the patient has a large pendulous abdomen, this should be corrected by diet, exercise and abdominal or other appliances. A pad may be worn to keep the kidney in place and to give patient relief. If all of these fail, then nephropexy or nephrorrhaphy should be resorted to. This operation was brought forward and practiced by Dr. E. Hahn, in 1887, and consists in making an incision in the lumbar region at the outer margin of the spinal muscles down to the kidney. The fibrous

capsule, with a bite of the cortical substance, should be stitched to the fascia of the back and to the portion of the periosteum that has been stripped from the twelfth rib with No. 3 chromicized 20-day catgut, 3 or 4 sutures being used. Tuffier takes up a flap of the fibrous capsule and stitches the same to the divided muscles. Others scarify the capsule of kidney and stitch the kidney to the fascia of muscles of the back. Any of these methods is applicable. The external wound is sutured the same as other such wounds, with drainage of silkworm placed in lower angle of incision. This drainage should be removed the second or third day. The wound should be dressed with an abundance of sterilized gauze. A pad should be applied in front to keep the organ in place when the patient is moving, vomiting or struggling. The patient is placed upon the back for ten or twelve days. A bandage pad is applied in front and below the kidney to keep it in place, and kept on for several weeks after patient has been up and about. This surgical procedure is comparatively safe, statistics showing that about 1 to 1½% are fatal. It is an operation that should be advised and practiced, as it gives the only rational relief in cases that have a number of very aggravating reflex disturbances.

The physician must be a book lover. Every book in his library has a history. Although it may be out of date, yet the owner remembers some good ideas that it gave him, and cherishes it. How it does hurt to hear the thud of a good book as it falls to the floor, or to see one spread face downward on a table, or to see a reader wetting his finger-tip in his mouth to turn the leaves!

The following from "*Modern Bookbinding*" is well worth reading:

"Hold the book with its back on a smooth or covered table; let the front board down, then the other, holding the leaves in one hand while you open a few leaves at the back; then a few at the front, and so on, alternately opening back and front, gently pressing open the sections

till you reach the center of the volume. Do this two or three times and you will obtain the best results. Open the volume violently or carelessly in any one place and you will likely break the back and cause a start in the leaves. Never force the back of the book.

"A connoisseur many years ago, an excellent customer of mine, who thought he knew perfectly how to handle books, came into my office when I had an expensive binding just brought from the bindery ready to be sent home; he, before my eyes, took hold of the volume, and tightly holding the leaves in each hand, instead of allowing them free play, violently opened it in the center and exclaimed: 'How beautifully your bindings open!' I almost fainted. He had broken the back of the volume and it had to be rebound."

## MEDICAL FALLACIES.\*

C. B. FULKERSON, M. D.,

Kalamazoo.

"No pleasure is more incomparable than to stand on the vantage ground of truth."—Bacon.

"It is a source of delight to be safe on the shore and view ships tossed at sea, or to be in a fortification and see two armies join battle upon a plain. But it is a pleasure incomparable for the mind to be seated by learning in the tower of truth and from thence to view the errors and labors of others."—Lucretius.

In the ordinary conduct of life, in the ordinary business of mankind, wrong inferences, incorrect interpretations of experience are absolutely inevitable; and after the highest degree of culture obtainable, in and out of our profession, such erroneous inferences are quite as frequent as correct inferences, correct interpretations of experience.

In the department of inquiry or in departments devoted to experimental or investigative work pertaining to medicine and allied sciences, the diversity of opinions still prevalent among talented persons and the equal confidence with which some of these people cling to their respective tenets are a proof that even the most cultivated patron of our profession has not as yet learned to abstain from drawing conclusions for which evidence is insufficient.

Notwithstanding the training and natural capabilities of our illustrious predecessors and colleagues, there is reason for the diversity of opinion, the prevalence of superstition, fallacies and quacks in our midst.

Of all things that nature has created, the human body is most capable of re-

lief, though the method of relief be most liable to error. Of all the natural bodies we find none so variously compounded as the human. Vegetables are nourished by earth and water, and brutes by herbs and fruit; but man feeds upon the flesh of living creatures, herbs, grain, fruits, different juices and liquors, of which the latter have been his curse. His habitations, his exercises, his passions undergo numberless changes so that it is evident that the body of man is more technically compounded and organized than any other natural substance. This variable, subtle composition and fabric of the human body makes it like a kind of curious musical instrument easily disordered; and therefore the poets justly joined music and medicine in Apollo, because the office of medicine is to tune the curious organ of the human body and reduce it to harmony.

The subject being so variable has rendered the art more conjectural and left the more room for imposture. Other arts and sciences are judged by their power and ability and not by success of events. The lawyer is judged by his ability of pleading, not by the issue of the cause; the pilot by directing his course and not by the fortune of the voyage: while the physician to some degree has no particular art that clearly demonstrates his ability but is principally censured by the result, which is very unjust. For who can tell, in great many instances, if a patient die whether it is inevitable, or if he recover whether the cure is brought about by art or accident? Whence imposture is frequently

\*Read before the Academy of Medicine of Kalamazoo, May 7, 1907.

extolled and virtue decried. The weakness and credulity of men are such that they often prefer a quack or a cunning woman to a learned physician.

Thus we see how this frail fabric of flesh of ours could have been the cause for medicine to have had its birth in magic and superstition, just as alchemy gave birth to chemistry and astrology to astronomy. Its first professors were sorcerers and priests. Its beginnings are to be looked for in juggleries and mummeries of holy men and women who by fasting or narcotics or other means, were enabled to hold communion with benignant and malevolent spirits. Among rude peoples the physician is often a priest but always a magician. In this modern enlightened age as well as in the ancient period, prayer, charms, medals, rings, etc., impregnated with virtue by ecclesiastical benediction, and electric belts are supposed to be indispensable to purge the human body of its demoniacal possession, disease. These heresies which emigrated from Europe to this country are flourishing today in one particular locality—Georgia and South Carolina—alongside of the best equipped of our profession. The people particularly ordained to use charms and incantations are called "users."

People in general are prone to marvel at the success of such superstitions, and are unable to consider the inaccuracies, the fallacies and errors accompanying such absurd remedies for diseased processes. I have attempted a classification to facilitate clearness:

I.—1. Superstitions—pure and simple—*indefinite origin.*

(a) Incantations:

1. Cure for inflammation—"St. John came over with all his congregation, St. Mary came over with all her communication, Christ is mighty to cure mortification, and all other

complaints. In the name of the Father, in the name of the Son, in the name of the Holy Ghost. Amen,

2. For Colic—"Lay your hand on the person's stomach and say three times, I stand on wood and I see wood. For one glass full of cold red wine, Colic let the griping alone. A, B, C May God help you. In the name of God the Father; in the name of God the Son; in the name of God the Holy Ghost. Amen, amen, amen."

3. For Boil (furuncle)—"The boil and the Dragon went over the creek. The Dragon drank, the Boil sank. In the name of the Father, in the name of the Son, in the name of the Holy Ghost, amen." Lay your hand upon the boil as you say these words. Do it three times and the boil will decrease.

(b) Superstitious Remedies:

1. Rattlesnake oil for rheumatism.

2. Grease fried from toads for rheumatism.

3. A sharp knife taken to bed to cut the pains in after birth, or a razor to cut pains in rheumatism.

4. Remedies for Epilepsy:

1. Tea made from a piece of rope with which some one has been hung.

2. Take a broom and sweep from three corners of the room and throw the sweepings over the person who has the sickness while you say, "In God's name, Falling Sickness, you must depart till these seeds die out." So do it three times.

II.—Superstitions of definite origin—

Substances having some marvelous property or origin; also had some marvelous property to heal.

1. The alchemists expended labor and

ingenuity ad libitum, to make gold potable. Motive actuating—a conceit that gold, being so precious materially must have marvellous properties as a universal medicine.

2. Any substance involved in mystery or believed to be derived from supernatural source had also medicinal properties. At one time showers of a peculiar substance fell in northern Italy which is now known to be excrements of insects. The inhabitants regarded it as a manna and swallowed it with such avidity that little enough was left for scientific experiment. The factor underlying this is, that a wonderful thing of course has wonderful properties.

3. There is a belief that every natural substance which possesses any medicinal virtue, indicates by an obvious and well marked external character the disease for which it is a remedy or for which it is employed. This outward character was generally some feature of resemblance, real or fantastical, either to the effect it was supposed to produce or the phenomenon over which its power was thought to be exercised. Thus the lungs of a fox must be a specific in asthma since that animal is remarkable for strong powers of respiration.

4. "Tumeric and saffron have a brilliant yellow color which indicates that it has the power of curing jaundice."

5. The polished surface and stone hardness which is so imminently characteristic of the seeds of the *Lithospermum officinale* (common gromwell) were deemed a certain indication for use in calculus diseases.

4. Nettle tea for urticaria.

Sage tea for colds.

Lime water for warts.

Porous plasters to relieve pain in back.

Electric belts.

Dyes of stockings—poisonous.

In the sixteenth and seventeenth centuries when medicine began to assume the character of an inductive science, these evils, these sects and impostures, were rightly speaking, competitors of the more learned men of medicine. By reasoning, characteristic of those periods physicians would say in the words of Solomon: "If it befall to me as befall to fools, why should I labor to be more wise?" Hence, we find then, poets, antiquaries, critics, politicians and divines among physicians, and in each particular subject they knew more than in medicine. They knew and realized that individual interest, time, labor, and study failed to merit them reputation or profit.

Impostors, quacks, etc., have vied for popularity, with physicians, because the *people have failed to observe the instances and circumstances surrounding the nefarious results of these sects*. They have called fortune-tellers true prophets by not referring to their numerous events in which their predictions have been falsified, but by considering only the accidental successes. They have not considered the possibility of the person being in collusion with some friend. The mass of mankind has seemed to remember only the affirmative side of the question and absent-mindedly neglected the negative upon which, had there been some thought, quacks, nostrums, superstitions and magic would not have been known today.

Coleridge, in his essays entitled "Friend," has happily illustrated the subject we are now considering. In discussing the origin of a proverb which is to be found in all the languages of Europe, "Fortune favors fools," he admits several explanations. Providence is eminently watchful over the helpless and extends special care to those incapable of taking care of themselves. So used, it breathes the same feeling as, "God tempers the wind to the shorn lamb," or



as the sportive adage says "the fairies take care of children and tipsy folk."

Unforeseen coincidences may have greatly helped a talented and capable man to accomplish what his own abilities were able to do for him; in such instances the good work excites little or no attention and the incident is not remembered. But let an ignorant man perform some remarkable piece of work without the aid and intervention of skill and we marvel at it, attention is aroused, a fixed impression made and the incident is long remembered. We attribute the recent phenomenal development of opsonins and their application to the treatment of disease to the cleverness, skill, talent, and enthusiastic application of Prof. Wright, and not to accident. It is not more than expected from a talented man. Let a poor mechanic accidentally develop a machine which revolutionizes a department in mechanics and grow wealthy in consequence, his jealous neighbors would say, "O what a lucky fellow! Well fortune does favor fools—that's certain—it's always so." Thus accumulating one sort of facts and never collecting the other we do as poets in their diction and quacks of all denominations do in their reasoning—put a part for the whole and at once soothe our envy and gratify our love for the marvelous, by the sweeping proverb "Fortune favors fools."

Another class of fallacies originating from past experiences are those arising from preconceived opinion. This has made the whole race unobservant of all facts, however abundant, even when they pass under their own eyes, which are contradictory to any first appearance or any received tenet.

(a) Use of ice on back of neck for nose-bleed—the factor is the production of shock, though mild, which decreases the blood pressure sufficient to stop the nose-bleed.

(b) Colds—Rely wholly on medicines. Time alone can do more than drugs. An individual asked Dr. Osler for a prescription for a cold. His answer was: "I give you just four days."

The celebrated John Wesley, while commemorating the triumph of sulphur and supplication over his bodily infirmity forgets to appreciate the resuscitating influence of four months' rest from his apostolic labors. The disposition of the human mind is such as to place confidence in the operation of mysterious agents that we find him more disposed to attribute his cure to a brown plaster of egg and brimstone than to Dr. Fothergill's prescription of "rest, fresh air, goat's milk and exercise."

Preconceived ideas not only affect the public mind, but we find it in our midst, where it has root in every-day work and thought. Empiricism originated from the word empiric, meaning experimentalist, searcher after truth, or facts in nature. It is unknown during just what period it began to degenerate in meaning. Empirics were a sect during the time of Celsus and Galen who gave some insight into their modes of thought and practice. The later adherents of the school excluded all theoretical study even that of anatomy and were guided by tradition and individual experience. Empiricism in medicine today means that for want of theoretical or experimental knowledge, remedies are prescribed by guess according to name of disease without taking into consideration the constitution or individuality of the patient. He frequently seems to have no anatomical, pathological, or physiological idea of the disease about to be treated but forms a picture in general of the diseased state and proceeds to treat it by a shotgun prescription recommended for a similar picture, some one of the numerous drugs therein possibly acting directly, instead of applying some known therapeutic principle based upon

such an anatomical pathological entity. Frequently we fail to consider conscientiously the great variety of pathological processes directly influencing any one particular process. These become more numerous as our viewpoint becomes more comprehensive. Hence, I believe, that empiricism as it was originally construed, is permissible, but that as it is at present construed, it has no application. I can say in passing that though we may be far from empiricism in our method of treating disease, it certainly borders on a fallacious method. We enter into the minutiae of detail to observe, examine and discover every relation of diseased processes. Then we stumble, fumble, guess, and blunder about among all sorts of therapeutic anomalies presented to us by reputable and disreputable pharmaceutical manufacturers, whose representatives philosophize, *ad libitum*, upon the magnificent healing properties of their products. We endeavor to make the disease apply to the preparation rather than making the prescription apply to the disease. This is generally done whenever we attempt to fill a prescription by some of these stock preparations peddled at our doors. For example: We have no less than 25 different formulas for diarrhea. Each individual may purchase any two of these formulas. Now diarrhea may be due to the presence of pathogenic bacteria; to decrease of hydrochloric acid; retention of putrefactive products; to constipation; to disturbance in innervation of intestinal tract; to amoeba dysentery; to relaxation of blood vessel walls of the intestinal tract. Now if an individual depends upon two or more different formulae, what does scientific medicine do for him? These preparations contain from 2 to 5 grains of bismuth. In order that good results be obtained from bismuth, 15 to 30 grains must be administered.

Bronchitis may be due to emphysema, pleurisy, cardiac or nephritic incompen-sation, intercostal neuralgia, asthmatic tendency, tuberculosis, pressure of tumors of the mediastinum, infection of some cocci or other pathogenic bacteria; yet, for these, we keep upon our shelves, White Pine Tar Compound, with or without morphine. What effect does prescribing patent and semi-proprietary compounds have upon the individual? It breeds careless methods of thought and action, stifles studiousness and research, counteracts agitation against patent medicine evil, and reacts against the profession as a whole.

There is no branch of scientific medicine in which there is likely to be found error as in scientific nomenclature. A great many expressions, at one time limited by the extent of medical knowledge have, during recent years undergone modification in order to convey any idea at all.

Our view of medical thought has been greatly changed, differently moulded, and most certainly broadened. Congestion of the liver, during a period in the past conveyed quite a complete idea and a definite condition. We see it to-day occasionally. It means little now unless modified. If one says passive, or active, or functional or inflammatory congestion of the liver, we know definitely what is the trouble. The ancient expression congestion of the lungs means little to us today. It merely expresses one condition through which the lung passes during an attack of lobar pneumonia. The word pneumonia is quite permissible, but unless the word is modified we may assume to know and yet not be positive of the condition. Thus lobar or lobular pneumonia, or interstitial or apical or alcoholic or fibrous pneumonia have distinct entities.

We hear frequently, "He has some constitutional disease." That may be a correct statement in some one instance,

but in the majority of such expressions it bears an erroneous meaning. There is room for conjecture. Some authorities include under this head diseases of blood, osteomalacia, rachitis, diabetes mellitus and insipidus, chronic rheumatism, arthritis deformans, etc. You readily see that constitutional diseases may designate quite a variety of conditions. It seems to me from the original meaning of the word one should confine the class of diseases to those which arise from some constitutional anomaly which affects the body as a whole. Diabetes mellitus is not a constitutional disease, because its presence is significant of some pathological condition of the pancreas or some extrinsic influence affecting the body which itself produces diabetes. Obesity is an example of a constitutional disease because its origin can not be traced to any local conditions or disease and which affects the body as a whole.

We hear many intelligent people speak of after-birth for placenta; piles (hemorrhoids); quinsy (suppurative tonsillitis); boils (furuncle); and "matter" to signify pus. If people can learn the technicalities of art, lengthy names of history, biography and the bible, they can also learn readily, at our hands, some of the most simple names that designate the true condition. We have taught the public about hygiene, sanitation, pure food and patent medicines, and social evils. The subject, "Fallacies," has a minor place, but it is important and necessary to dwell at length upon the little things. In short, there is no fact or truth too small for consideration in medicine. The surgeon emphasizes the minutest detail in asepsis as indis-

pensable to good results. A minute error might mean contamination, infection, possibly an accidental death. "The best man," said Socrates, "is he who tries to perfect himself, and the happiest man is he who most feels that he is perfecting himself."

Individual perfection in the principles of scientific medical thought, practice based upon facts, action controlled by love and high appreciation of truth—all these factors predominate in the present day work, and are rapidly eliminating the belief in superstition, quacks, and imposters. Enlightened civilization and educational training and the steady progress of the allied sciences are rapidly eliminating the factor of "guess" in the ordinary daily routine of life.

There is little doubt but that we are creatures of circumstance. Many a cure is established, many a life is saved, partly by the intervention of science and partly by Nature's sleight-o'-hand performance, but we can truly say that we are watching Nature more closely and interpreting Nature more clearly and copying Nature more accurately than ever before. We seldom injure her as the ancients did. We never fail to assist her, but labor incessantly to see that we never handicap her in any of her wonderful processes. When this principle can be followed through elimination of individual inaccuracies by a process of clear thinking and right doing, when the individual will concentrate himself, at all times, to seek the truth and continue as an unswerving adherent of the truth, and as an uncompromising enemy of fallacy and sophistry, then, and not till then, will we have reached our millenium as an ideal profession.

## A PLEA FOR MORE FREQUENT CURETTAGE FOLLOWING LABOR\*

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A few words, gentlemen, upon the neglected subject of the heat mechanism in relation to temperature, puerperal sepsis, and the value of early curettage. It is frequently difficult after labor, when a patient presents normal symptoms with the exception of a moderate fever, suspicious lochia, and perhaps a slight amount of uterine tenderness, to decide whether to curette her. Very often the tendency is to delay day after day, using cathartics, antipyretics, quinine, etc., hoping that the fever will subside.

This paper is written in an attempt, (by pointing out the errors of the heat mechanism) to aid in an early decision, between a thorough cleansing of the birth canal or to pursue the too frequently used expectant method. I mean by errors of the heat mechanism, a lack of the usual relation or reaction between the temperature and the degree or variety of infection, or other pathological condition.

A short digression in review of the heat mechanism will be necessary to show the complexity of this coördinate mechanism and to make my paper intelligible. The heat mechanism according to Reichert, who has done considerable original work on this subject, consists in a general way of the following:—

- (a) A nervous mechanism which controls the thermogenic apparatus:
- (b) A thermogenic mechanism, or the process by which heat is made:

(c) A thermolytic mechanism, or the process by which heat is given off from the body:

(d) A thermotaxic mechanism, or the regulation between the last two.

The nervous mechanism is made up of centres, afferent and efferent nerve fibers. Specific centres control the amount of heat produced by skeletal muscles. The centres which are in the cord are reflex and automatic, reflex because they are supposed to be governed by afferent impulses principally from the skin; automatic because they are thought to be able to work alone. Thermo-accelerator centres are found, one in the caudate nucleus of the corpora striata and one in the pons. A thermoinhibitory centre is found in the brain cortex of man, in the dog, in the sulcus cruciatus and at the junction of the supra- and post-Sylvian fissures. Ordinarily the general centres regulate the amount of heat produced; in extraordinary conditions the accelerator and inhibitory centres are brought into use. The activity of these centres is governed chiefly by the temperature of the blood and by cutaneous impulses generated in heat and cold nerves.

The thermogenic mechanism consists of the incidental heat-producing tissues, viz., all of the bodily tissues; the specific heat-producing tissues, viz., the skeletal muscles; and its (the thermogenic) nervous mechanism. The thermolytic apparatus consists of the sweat mechanism, respiratory movements, mechanism of circulation of the blood, and the pilo-motor mechanism, which brings about changes in the tension of the skin. All of these thermolytic mechanisms represent methods of giv-

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ing off the excess of bodily heat.

The thermotaxic mechanism is the regulation between thermogenesis and thermolysis.

Too much importance is attached to the idea that a moderate fever means a mild infection. We have all seen cases lost from an adherence to this view, in the first few days of a puerperal infection. There is nothing in our knowledge of the heat mechanism to prove that this is the case, or that this mechanism in different individuals will react in the same degree by the same amounts of poison.

The following examples of errors of the heat mechanism will illustrate the fact, that the degree of fever is not necessarily in relation to the gravity of the case:—The easily disturbed temperature of childhood and of hysterical patients; a rise of temperature due to emotion from fear of an operation; exposure to cold; constipation in pregnancy; mammary congestion without pus; considerable fever following the expulsion of a tape-worm; perforation of the uterus (when the rise of temperature occurs immediately it is said to be more reflex than infective); and a high fever occasionally occurring from acute retro-displacement of the puerperal uterus. (Hirst.)

The heat centres can also be affected by vasomotor and blood-pressure changes; differences in composition of the blood plasma, other than that due to organisms; a thermogenic toxin (mentioned by Hirst), local or general metabolic changes, and many other conditions.

These examples will serve to elucidate the fact that the bodily temperature is controlled by a complex nervous mech-

anism and that it is often affected by many conditions besides microorganisms, ptomaines, and the like. That this mechanism can act in such a way as to disguise a severe infection can hardly be doubted, when we realize that it is a powerful reflex apparatus, constantly tending, by influencing metabolism and the actual heat produced by the skeletal muscles, to keep the temperature normal, in spite of internal and external conditions. We are too prone to confuse the heat mechanism with the clinical thermometer, and to consider it as infallible and based upon an absolute and universal calibration.

While acting as consultant to the outpatient obstetrical department of the University of Pennsylvania, I had ample opportunity of testing the following mode of procedure; if the patient presented for three days, in spite of the expectant method of treatment, a moderately high fever slight uterine tenderness and a lochia of questionable character, the usual course of treatment was to curette, of course being guided by any other symptoms or conditions, and laying especial stress upon the condition of the uterus. This method gave good results in a large number of cases, particularly with the dispensary class of patients.

According to Webster and the figures of Boxall, Cullingsworth, Williams, etc., there has been very little diminution in the death rate from puerperal sepsis, except in hospital practice, since the advent of the aseptic era. Therefore, one would be justified in reasoning that besides too little attention being paid to aseptic technic, the after-treatment of many child-bed cases could be much improved.

## THE PROSTATE GLAND\*

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The prostate gland is a firm muscular glandular body, placed like a sphincter around the first inch of the urethra, immediately in front of the neck of the bladder and rests upon the rectum, through which it may be distinctly felt. In shape and size it resembles a chestnut—and weighs about five drachms. It consists of two lateral and one middle lobe. The two lateral lobes are of equal size, separated by a deep notch behind and a slight furrow upon the anterior and posterior surfaces. The middle lobe, usually a troublesome one, is a small transverse band placed between the two lateral lobes at the posterior part of the gland and lies beneath the neck of the bladder behind the commencement of the urethra and above and between the ejaculatory ducts.

The prostate is perforated by the urethra and ejaculatory ducts; the former usually lies about one-third nearer the posterior than its anterior surface. The ejaculatory ducts pass forward obliquely between the middle and each lateral lobe and open into the prostatic portion of the urethra. In its histological structure it resembles the uterus in the female and is composed of muscular fibres, glandular elements, and a connective tissue stroma uniting them.

The function of the prostate is to contribute a fluid to the semen. The prostatic fluid is viscid, opalescent, and usually alkaline, and contains 1.5% of solids; this secretion, together with the albuminous secretion from the seminal vesicles enables the fluid to clot after its reception in the female passages and

thus prevent loss of spermatazoa. It has been demonstrated that this coagulation is caused by a specific ferment present in the prostatic fluid. By careful experiment it has also been demonstrated by Steinach that removal of the prostate and seminal vesicles does not diminish sexual passion or ability to perform the sexual act, including the actual discharge of spermatazoa; it does prevent entirely the fertilization of the ova. Removal of the seminal vesicles alone markedly weakens the fertilizing power of the semen. Hence the removal of the senile hypertrophied prostate does not carry with it the loss of any important function. Hypertrophy of the prostate exists in about 50% of men at 60 years of age and in probably 20% of these cases there are manifest symptoms. The cause of hypertrophy of the prostate, outside of those cases directly traceable to excessive sexual indulgence and gonorrheal infection, is unknown.

The pathological changes consist of general enlargement of the entire organ or the enlargement may be confined to one or both laterals or the middle lobe. The first change which occurs is a growth of the gland tubules, with their associate muscle, so as to form a new gland-substance closely resembling the normal prostatic substance. In this, the glandular stage of hypertrophy, small tumors often form in the substance of the prostate, causing an enlargement which is irregular and may impinge upon the urethra and cause it to become distorted. Later a degenerative change takes place, which finally converts the new tissue into a mass of more or less dense fibrous tissue and

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this constitutes the second or fibrous stage. After a period of degenerative changes the gland becomes very hard and dense. The extent of the hypertrophy depends upon the nature of the tissue involved. It may be only slightly enlarged or attain the size of a large orange or larger. Obstruction may come from the enlarged middle lobe only and assume the shape of a dam across the mouth of the bladder, behind which the urine accumulates and cannot flow out, or it may be more circumscribed, extend up into the bladder and act as a ball valve, the harder the straining to expel the urine the tighter the valve closes over the vesical orifice.

In many cases enlargement of the prostate does not cause any symptoms and is then harmless, but when we do get obstruction what is the result? Residual urine accumulates in the bladder, pathological changes occur in the bladder wall, and secondarily the ureters and kidneys become affected. The bladder becomes distended and its muscular wall thinned. As a result of this the ureteral valve is opened out, the ureters and pelvis of the kidneys dilated and pressure changes occur in the kidneys.

The changes in the urethra are, first, it becomes elongated two or three inches; second, the normal curve is changed; third, the lumen of the urethra, instead of round, becomes flattened, due to pressure of the lateral lobes and it becomes a vertical slit—hence the failure often encountered in passing an ordinary catheter. The symptoms are familiar to every practitioner of experience. First, there is difficulty in starting and deficiency in the flow of urine. Second, frequent desire to urinate, especially at night. Third, the well-marked symptoms of cystitis, occasioned by the decomposed residual urine, which becomes alkaline in reaction and ammoniacal in odor. Fourth, after the bladder has become distended to the limit, incontinence of urine develops and

we have constant dribbling.

Now the only question of treatment I care to consider in these brief notes is how long are we to allow these cases to drift after failing to secure anything like permanent relief from the old time palliative treatment?

The experience of the past five years has clearly demonstrated the efficacy of radical surgical procedure in these cases; the operation of prostatectomy has proven to be the most satisfactory in its results of all the methods advocated. Bottini's operation of burning a channel through the enlarged prostate has never been extensively accepted in the United States.

Prostatotomy is only successful where the middle lobe alone is the cause of the obstruction, which is rare, and the cutting out of the "V" shaped piece from the gland has not proven satisfactory. Castration has availed but little—except in early cases. Therefore, I am of the opinion that the radical operation is, as a general proposition, the most satisfactory.

Then as to the method, there are the suprapubic, perineal, or the combined operation. My personal experience has been somewhat limited, but I have found the perineal operation so easy and so satisfactory that I prefer that method, but some cases are of such a character as to require the suprapubic or the combined suprapubic and perineal operation. But whatever operation is done, it should be done early; get the patient in as good physical condition as possible, wash out the bladder freely for a few days prior to the operation, clear up any uremic infection as much as possible, and operate. If the patient is not too old and the kidney complication not too extensive—always considering, of course, the same general surgical propositions that you would in doing any surgical operation, you will be as pleased with the result as you are from almost any surgical procedure.

## The Journal of the Michigan State Medical Society

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APRIL

### Editorial

The exposure of frauds by the *Journal of the American Medical Association* continues without abatement. The most recent instance concerns one of the most widely advertised drug manufacturers in the country—the ABBOTT ALKALOIDAL COMPANY. The development of this company's products has been so well managed as to result almost in a medical sect, and the organ of the sect is the *American Journal of Clinical Medicine*, formerly the *Alkaloidal Clinic*. It has long been apparent to discerning readers that this journal is but a compend of thinly veiled advertisements, but to thousands of doctors, who are ever searching for medical specifics, the specious claims of the ABBOTT COMPANY have made powerful appeal. It is to such men that the firm has directed its most insidious arguments, as is suggested by the list of minor journals containing Dr. Abbott's original articles. It is astonishing that physicians are so easily duped, and yet it may be urged that their eternal desire for new medicinal agents is prompted by an underlying good motive. It is a form of aberration, of unreasoning empiricism, which leads a man to chase this therapeutic will-o'-the-wisp, and it is a form of wool-blindness which causes him to give credence to any article appearing under the guise

of quasi-science and signed by a fecund author, such as Dr. Abbott. The great majority of his articles include a recommendation of his firm's products, and it is a mystery why such literary contributions have so long been accepted by medical journals, when they are such palpable advertisements. We suspect that many an editor may have been influenced by the full-page paid advertisement in his journal.

The humbuggery of "alkalometry" has been exposed in its relation to some of the Abbott drugs, such as cactin and calcidin, but the fraud is not so much in the specific instances as in the methods employed. The chief officers of this commercial house are men who practice little if any medicine actively; for years they have been devoted to commercial enterprises, and their interests include other ventures than drug manufacturing. Yet, sailing under the guise of ethical practitioners, they make a point of attending many medical gatherings, not hesitating to read papers, enter discussions, and on occasion introducing therapeutic suggestions.

But most flagrant of all is the stock and bond issue of this remarkable concern. Selling their notes in small lots to physicians throughout the country, they gain an assured patronage that speaks well for their financial sagacity. Dividends are guaranteed, although it seems the guaranty does not bear scrutiny. As a matter of fact the firm is said to be not on a perfectly secure financial basis, and the sale of their commercial paper is not for eleemosynary purposes, but to get money. The officers of the firm were also the chief executives of a bank, which recently failed, and thus their embarrassment came to public notice.

This, then, is the true standing of these men who profess to be philanthropic, ethical members of the medical fraternity;—they are owners and man-



agers of a drug firm; they are officers and promoters of other business concerns; they were officials of a bank in whose failure the ABBOTT COMPANY is a prominent factor; they appear in reputable medical societies and openly advertise themselves and their nostrums; they offer to physicians bonds which are not properly secured, and invite thereby the prostitution of a man's self-respect and professional honesty.



**Who owns the prescription?** This is a question which has been much discussed and which has been answered in as many different ways as is possible. Some have held that the doctor is the owner, others that the prescription is the property of the patient, others that it belongs to the druggist, and a few that it is public property.

The Louisiana State Board of Health has made a rule that the prescription is the property of the physician. This has been done with the hope of discouraging the constant refilling of prescriptions by the pharmacist. The argument set forth is that an original recipe is but a copy of instructions to the druggist, to aid the patient in getting the proper medicines, and that the druggist holds it in trust for the physician, therefore having no right to copy or refill without the physician's consent. While the object of the Louisiana Board is quite commendable, it is questionable if their action would be sustained by the court.

Those who hold that the patient is the rightful owner, have in some ways, the best of the argument. The courts have held that the word "prescribe," as applied to the acts of a physician, means "to advise, appoint or designate a remedy for disease." It then follows that a prescription is a matter of advice, and if there is any property in advice it cannot belong to the person who gives it.

The advice, whether oral or written, has been paid for by the patient (or more often has been charged) and he has the legal right to carry it out or neglect to do so, as seems fitting to him. If the advice is written, in the form of a prescription, the patient has the legal right to have it filled, give it to a friend, keep it as a souvenir, or tear it up. In other words, the physician has merely sold a copy of certain information and that copy belongs to the patient. From the legal point of view, it is probably not a part of the contract that the patient shall keep this advice solely for himself, though it would seem that, viewed from the ethical side, this is generally understood. We do not know that this point has been passed upon by the courts, but numerous almost identical questions have often been decided, as for example, stock quotations furnished a telegraph company, or financial advice given by Dunn or Bradstreet are common property, unless it is specifically stated to the contrary (as is usually the case) in the contract.

It would seem then that the physician cannot claim the prescription after it has been given to the patient. To whom does it belong after it has been filled by the druggist? Is the pharmacist merely the custodian or is the slip of paper his own property? The law in nearly every state provides that the druggist must keep the original prescription, if it contain poison, on file. It then becomes a piece of evidence and in that sense public property. There is a decision by the Court of Civil Appeals in Texas to the effect that a druggist has a property right in prescriptions. The court says that "there was testimony in this case tending to show that there was a qualified right to the use of the prescription in the person depositing it; but otherwise, and between the druggist and third persons, the druggist was entitled to it." In one case in Ohio, also, it was held

that the prescription files belonged to the druggist and did not form part of the general stock, and therefore, could not be held under the mortgage covering the stock in the shop.

Still the question has not been settled by any of the higher courts.



Another interesting question of ownership is that of the bedside chart. Does the record of the case belong to the doctor or the nurse? Suppose that Dr. A. is attending a patient ill with typhoid and during the trying third week, Dr. A. is discharged, and Dr. B. is called in. The nurse, who has kept the chart, is retained. The chart, in such a case, is most valuable and to be deprived of it a most serious handicap for Dr. B. Has Dr. A. the right to take away the chart when he is dismissed? This question was most seriously discussed in a recent journal and different opinions expressed.

Here the legal right and the ethical right are directly at variance. There can be no doubt but that the chart is the property of the physician, for it has been kept for his information by his agent. A bookkeeper does not own the set of books which he keeps, no more does the nurse the records which she has made. Ethically, however, the record should remain with the patient, and small minded, indeed, would be the physician who would contend otherwise.



America's contributions to science during the last seven years constitute but five per cent of the contributions of all countries. At least this is the estimate which one must make, if the awards of the Nobel prizes are considered just. In the seven years which have elapsed during which the provisions of Nobel's will have been executed, twenty-one prizes

have been given in science, one each year in physics, chemistry and medicine. America was recognized for the first time in 1907, the first prize in physics going to Professor A. A. Michelson, head of the Department of Physics in the University of Chicago. Professor Michelson's work has been in the field of optics. Among his achievements are a highly accurate determination of the speed of light, which has become a classic; the invention of a so-called interferometer, an instrument devised for detecting the relative motion between the earth and ether and for measuring minute distances; and a powerful spectroscopic device known as an *echelon* grating. The practical importance of these discoveries, says the *Popular Science Monthly*, is difficult to estimate, for many important scientific discoveries have not had a practical aspect until many years after their enunciation. Perhaps the best example of this tardiness is that of the dynamo which Faraday had in full operation in 1831, but which was not placed on the market until 1876.

As to the justness of the Nobel awards, the editor of the magazine referred to believes that the "recognition is as just as this country may properly claim." The distribution of these prizes in science is: Germany 7, England 4, France 3, Holland 2, Denmark 1, Sweden 1, Russia 1, America 1, Italy  $\frac{1}{2}$ , Spain  $\frac{1}{2}$ . Does one out of twenty represent our scientific productiveness or our proportion of the eminent scientific men of the world? As the editor of the monthly points out, scientific fertility, as measured by the number of men who have an international reputation, refers rather to the preceding than to the present generation. Thirty years ago there were but few opportunities for work in pure science in America. Today such opportunities are unexcelled, and the number of men of ability who are engaged in such work are many. It is said that

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about one-seventh of the scientific articles published are by Americans, and the general average of these is probably as good as those of any country. Surely, in no other country have there been so many advances in scientific productivity during the past twenty years as in ours, and in the future awards the proportion of Americans honored will be steadily increased until we have no cause to complain.

The following papers on tuberculosis were read at the meeting held in Detroit, February 21st, for the purpose of organizing a state anti-tuberculosis society:

#### SOME MODERN VIEWS OF TUBERCULOSIS.

GEORGE DOCK, M. D.,

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Ann Arbor.

In the very beginning of a movement such as the one that calls us together, it is well to consider the nature of the task that confronts us, and the prospect of successfully facing it. The problem is a serious one, but our means of solving it are so much more certain and accurate than they ever have been before that we have every reason for anticipating victory in the end.

Even in ignorance of the true nature of tuberculosis, a distinct improvement took place along with the general advance of sanitation in the last half of the 19th century. No doubt some advantages were apparent in the ignorant but drastic and inhuman quarantine and disinfection that were practiced in certain countries at earlier periods.

But within the last quarter century, beginning with the discovery of the tubercle bacillus by Koch in 1882, our knowledge of the nature of tuberculosis has become immensely widened and deepened. We have positive evidence of many details that formerly were obscure, and these are not details of only academic importance but

precisely those that affect the question of prevention and of recovery.

It is my privilege to speak of some of these things. The time at my disposal is necessarily brief, and I must disclaim any intention of discussing all the features of the problem. I shall hope, however, to explain the more important ones.

By "tuberculosis" we mean some disease due to the tubercle bacillus. This is most widely known in the form of "consumption," also called pulmonary consumption or pulmonary tuberculosis or phthisis. It is a chronic disease, affecting the lungs especially; causing there not only the specific tuberculous changes, but also ulceration and destruction of tissue, and leading to wasting or consumption of the body in general by tuberculous or inflammatory diseases in other organs besides the lung, with a chronic poisoning shown by the symptoms of hectic fever. One-seventh of all deaths are due to this form of tuberculosis. It lasts on the average 2 to 3 years. It attacks its victims at the most important age—after years of care in the protection and development of the body and the cultivation of both mind and body to make productive members of society. It is not only the most common, but also the most important form of tuberculosis from the standpoint of prevention, for in it the germs of disease are dispersed from the body to a greater extent than in any other. The disability and ultimate loss of life of the immediate patient, therefore, represent only a small fraction of the harm possible in a single case of consumption. But there are other important forms of tuberculosis. It may appear as "quick" or "galloping" consumption, killing within a few weeks with symptoms of pneumonia or typhoid fever, or meningitis or "brain fever," often wrongly attributed to injury or mental overwork. It may occur as scrofula, a common, disfiguring and sometimes dangerous affection; or as "white swelling" in tuberculosis of joints, or "cold abscess," or spinal disease; or as appendicitis, pelvic inflammation or even wide-spread peritonitis, besides many other local diseases—painful, disabling, or even fatal. The tuberculous nature of many of these has only been made clear within the last 25 years.

The total extent of tuberculosis is much greater than is expressed by the common form of the disease in the lungs. One-third of all deaths are attributed to it. In most places it causes more deaths in any given time than all the more dread-

ed acute diseases together—including diphtheria and croup, whooping cough, measles, scarlet fever, smallpox, and typhoid fever. Cholera, yellow fever and plague answer the usual conception of pestilence, but the ravages of these three are slight compared with those of tuberculosis.

Tuberculosis, being a germ disease, is infectious. It is also contagious, but its history shows the difficulty of that term or any of its substitutes. As long as we have any records of the disease, back to the time of Aristotle, consumption has been more or less widely believed to be communicable. The search for the germ, that occupied many men for a long period, was stimulated by that belief. But the more accurate study of disease brought about by bacteriology has shown us that it is not enough to recognize whether a given disease is communicable or not. We must know exactly how it may be communicated. We must know, to be more precise, 1, how the germs leave the body of the sick man, and in what condition; 2, how they may enter the body of another, and how favorable for their existence the body of the well man may be; 3, what chances they have of surviving, of retaining their peculiar powers, and of ultimately causing infection if they are kept for any time outside the body.

An enormous amount of the most painstaking work has been devoted to the solution of these problems, and we may be assured that we are now fairly well informed.

The germs leave the body with the products of disease in secretions or morbid discharges such as those of the nose, throat and bronchi, or the bowels and kidneys, or of the skin in lupus. In other words, they leave in case they have access to the outer world. From diseased joints or glands, or the brain and spinal cord, or the peritoneum, they do not leave except through ulceration.

In case of disease of the throat or lungs, they do not occur in expired air. They may and sometimes are ejected in coughing, sneezing, hawking, or even in loud and forcible talking, along with droplets of saliva or mucus. In such cases they soon fall to the ground. Germs, no matter how small, have weight. They have no wings and so cannot keep themselves in the air. All other modes of exit from the sick man's body are of minor importance compared with expectoration—the discharge of products of disease from the bronchi and lungs—in the commonest variety of tuberculosis. From the number of

such persons, from the number of bacilli that are discharged—sometimes thousands of millions in a single day—its importance is obvious.

Not all the bacilli that leave the body are capable of setting up infection in other persons. Many are dead. However, we do not know, and cannot tell except by tedious experiments, what proportion are harmless. We have abundant evidence that many are highly dangerous.

And yet the tubercle bacillus is rather easily destroyed—much more easily than the dreaded anthrax bacillus, for example. Cultures of the germs, kept under favorable conditions, tend to die out in 6 to 12 weeks. In dry sputum they usually die within three months, but may live longer—6, 8 or 10. In moist and decomposing filth the germs may die quickly, or may long remain virulent. They resist cold, but are easily destroyed by heat, and are very easily killed by direct sunlight in a few minutes, by diffuse daylight in a few days.

The sputum of the consumptive is not necessarily dangerous on the street. If not disturbed, its germs will soon die. But in the meantime it may be ground into powder, be blown as dust, be swallowed or inhaled. Or it may be dragged into houses or cars on shoes or skirts, and then be pulverized, and in the dark rooms or corridors of houses or shops the life of the germs may be relatively long. Accordingly, the presence of bacilli in any place is not inevitable, but due to the carelessness or helplessness of the patient who harbored them. The danger would be trifling if tuberculosis were as rare as leprosy, but when every fiftieth person on the street is affected the multiplication of accidental sources obviously increases the risk.

The bacilli may enter the body by any passage, such as the nose, mouth, eyes, or other orifice, by wound in the skin, by carious teeth. In all these parts there are natural protecting arrangements, partly mechanical, partly chemical or biological, but these barriers are passed from time to time, through the number or virulence of the infectious germs that reach them.

They do not always cause visible changes where they first enter, but may reach distant and hidden organs before they unfold their peculiar activities. The lung, for example, is not always affected by inspired germs, but very often by germs that have been swallowed, have passed into the intestine, and from there have made their way by the blood and lymph circulation to the lungs. In the case of little children, per-



haps the commonest mode of infection is by sputum dragged within reach of the fingers, and by the latter inserted in the mouth.

Human tuberculosis is the most common and most important source of tuberculosis. The question as to the danger of tuberculosis in cattle is fairly well settled at present. The milk of tuberculous cattle may cause tuberculosis in people who drink it. It is, however, easy to prevent infection of that kind, and other sources are so rare as not to require mention at this time.

This part of the subject is well expressed by Cornet: The tubercle bacillus occurs as a rule only where there is an unclean consumptive, that is, chiefly in inhabited rooms.

It is well demonstrated that for the occurrence of tuberculosis we not only must have the tubercle bacillus,—the seed—but also a proper soil. This is spoken of as the predisposition of the individual.

Hereditary transmission of the seed we realize as a possible but extremely rare occurrence.

Hereditary predisposition is a more widespread condition. But it is not an inevitable event. In a representative series of tuberculous patients from various parts of Michigan, especially from farms and villages, I found a history of parental tuberculosis in only 26 per cent., equally divided among mothers and fathers. This was only twice as great as the proportion of cases of tuberculosis in the parents of non-tuberculous subjects of the same class. The figures not only show that in most cases tuberculosis of the parents has only a small part in the production of the disease in the children, but also that this part probably consists more in exposure to infection than in predisposition. The children of tuberculous parents may overcome the inherited weakness; the children of non-tuberculous persons may furnish a favorable soil for the germs.

The prevention of tuberculosis has to deal with these two factors—the seed and the soil. For the elimination of the former factor it is obvious that our efforts must be directed to lessening the amount of dangerous material, by having fewer sick people, and hastening the destruction of all such material. The problem is a large one, but not beyond the reach of such hygienic authorities as every civilized community should have, out of economic motives if for no other.

For the improvement of the soil—the increased resistance of the body to infection—we must follow laws of health that have been known for

thousands of years, but the real importance of which is just beginning to be realized.

The final success of the anti-tuberculous movement depends largely on a change of view regarding the possibility of recovery in tuberculosis. That patients recover from consumption is by no means a recent discovery. It was believed to occur by some men, at all times in the history of medicine. The difference is that now we all know that recovery is possible in the majority of cases, if treatment is begun in time and properly carried out.

Here we meet one of the most important needs of the time—the early recognition of the disease, so that recovery may be expected. This requires two separate and distinct steps. The first is the general knowledge of the possibility of early diagnosis and its importance in treatment. It is not very long since it was considered enough to make a diagnosis in the well-established disease, after extensive destruction of lung tissue. All this has been changed, and an exact diagnosis can be made very much earlier. From a more exact knowledge of symptoms it can often be made from the history of the symptoms alone, but in many more with the history aided by a careful examination of the body and of the sputum, with a tuberculin test or an X-ray examination. In order to get this done it is necessary for the patient to present himself to the physician in time. People must do for tuberculosis as they have done for appendicitis. Before the nature of that disease was known, most cases were seen by physicians only in the last stages—the fatal peritonitis. Now all that has been changed, with an enormous gain of life and comfort. The tuberculous patient must learn that when his disease begins with a cough, it is not cough medicine he needs; when it begins with chills and fever, it is not malaria and he does not need quinine; when it begins with hoarseness he does not need a spray or troches; when he loses weight, becomes pale, or weak he does not need a tonic. He must know that what he needs is a complete and accurate examination, and if this is not conclusive at once, repeated examinations. Treatment directed to the physiologic needs can be carried out from the first examination, but treatment must never be considered enough as long as the exact condition is not yet made out, or as long as any symptoms remain.

Quite as important as the early presentation of the patient is the ability of the physician to make the examination. Here is one of the greatest

needs of the time. Just as we expect students to learn anatomy and operative surgery without adequate provision for the supply of necessary material, so we expect them to learn to recognize a disease of the most protean features with no proper facilities for instruction. The ordinary hospital refuses to take the kind of patients that would furnish instruction in physical diagnosis; the dispensaries, in which the earlier stages should be studied, are not equipped for teaching. Large sanatoria cannot be built near medical schools in most places, but in every place where there is a hospital there should be proper facilities for the care and study of tuberculous patients in various stages, and every medical school should have a service for those who are not ill enough to require hospital treatment.

As regards treatment, we see the same thing that we have in other details of tuberculosis—no lack of proper difference of opinion on many trifling details, but on the other hand a really wonderful agreement as to the chief features, a union of all that has been believed and taught by the greatest physicians of all times. The only adverse fact is that our knowledge of the treatment needed is often beyond the ability to apply it. The disease is chronic, it requires full nourishment, it sometimes prevents patients from earning their living for shorter or longer periods. Even if the patient cannot always be wholly cured, he can be partially cured and so become less dangerous. Most important of all, he can be taught how to live, so as to endanger less than before his own health and that of his family and his associates. Sanatoria, proper diet, hospital care when needed, house sanitation—all these must be provided, and with the aid of the world-wide movement now going on we may be assured that they will be provided.

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### THE ANTI-TUBERCULOSIS CRUSADE.

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VICTOR C. VAUGHAN, M. D.,

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Ann Arbor.

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MR. PRESIDENT, LADIES AND GENTLEMEN:

The civilized world is confronted with a great health problem for which a solution is demanded. The problem is that of the disease known as

tuberculosis, or in its pulmonary form, as consumption. Let us investigate in a general way this problem and see what will be necessary for its practical solution.

About one-seventh of all people die of this disease. This means that of the 70,000,000 or more people living today in these United States, about 10,000,000, if nothing be done to restrict the disease, will die of tuberculosis. The population of the State of Michigan is somewhere near 3,000,000, 300,000 of whom, if we are to judge by the mortality records of the past, are to die of this disease, and they are dying at the rate of about 2,500 per year. Is not this condition of our race sufficient to demand our attention and to deserve our most strenuous effort? Moreover, the natural tendency, as the density of the population increases is for the disease to spread more rapidly. It is transmissible from the infected to the non-infected, and as serious as the problem is with us, it is still more grave in the older and more thickly populated countries of Europe, and investigations have shown that in some of our large and crowded cities there are blocks, especially in the tenement districts, in nearly every house of which this disease has claimed its victims. This has been shown to be true in Philadelphia by Dr. Flick, and in New York by Dr. Biggs. In these centers the germ of tuberculosis breeds and from them it gradually extends in every direction. Shall we in the face of this showing fold our hands and do nothing, or shall we utilize our brains, our energy and our money and eradicate this great foe to the happiness, health and life of our race?

There are those who say that some of us talk too much about this subject, that we frighten people and are creating a condition of tuberculo-phobia. Are we so cowardly as these critics imply? When was anything worth doing ever accomplished without effort? What is, or should be, the highest aim in life if it is not the betterment of the world in which we live and the improvement of the race of which we are a part? So long as man does not see the dangers that threaten him, he is by nature a coward and cringes from the blow that may fall upon him, he knows not from whence, but when the lurking place of the enemy has been pointed out the manly thing to do is to face the evil and remove it, tear it out, root and branch, and then the fear of it is gone. Thanks to the investigations of modern medicine, there have been placed in our hands the means necessary for the destruction of the hosts of

bacilli that constitute the army of the great white plague, which for countless centuries has levied its fearful tribute on helpless man. To fail to perform a duty once recognized is indeed cowardly, more than that, it is criminal.

The history of medicine shows that for centuries past there have been occasional keen observers in the profession who have been convinced that tuberculosis is a transmissible disease, that it is likely to go through families and to spread to intimate associates without reference to blood relationship, and that certain houses have become infected with the virus of the disease. In the seventh decade of the 19th century a French physician, Villemin by name, inoculated animals with the sputum from tubercular patients and thus induced the disease. To some animals he fed the tubercular material, others he caused to inhale it, into others still he injected it, and by all of these avenues he succeeded in developing tuberculosis in previously healthy animals. These experiments fully established the fact that the sputum of the consumptive contains the seed of the disease and that these may be implanted on healthy animals. In 1882 Robert Koch demonstrated that the seeds of the disease in the sputum and other tubercular matter consist of microscopical rod-like organisms, now known as the bacilli of tuberculosis. This organism is found in all tubercular tissue; in other words there is no tuberculosis without it. It is the cause and the sole cause of the disease. This bacillus is so small that 3,000 of them would have to be placed in a line, end to end, to extend one inch, and it is so light that it may be blown about in the dust and inhaled by its unsuspecting victim. This bacterium has been isolated and grown in pure culture in which condition it may be seen in any bacteriological laboratory. Animals have been inoculated with it, and the disease, tuberculosis, may be produced at will. We now know that the bacillus of tuberculosis may be handled by those who know how without danger, that it is easily destroyed when found outside the body, and that so long as we have it under proper conditions, there is no cause to be afraid of it. We know that this poison-producing, microscopical plant is present in all tubercular tissue and that it is cast off from the bodies of infected persons chiefly in the sputum of individuals suffering from pulmonary tuberculosis and in certain other discharges from the body when other tissues are involved in the tubercular affection. The ser-

pent is no longer hidden in the grass by the pathway. It lies before us in the open. Shall we bruise its head or allow it to escape and again bite man's heel? Destroy all tubercular discharges and the spread of the disease is at once restricted, and when such discharges are universally destroyed, the disease, which now destroys one-seventh of our race, will afflict mankind no more. This is all we have to do in order to accomplish this great result. Is it not simple, and does not our race deserve extinction if it fails to accomplish a task so easily done?

However, this work, as simple as it is, cannot be done by a few or by any one class or by the medical profession alone. The intelligent co-operation of the people in general is necessary. It should be distinctly understood that in the eradication of this and other diseases the work must not be left wholly to the medical profession. Being engaged in the study of diseases medical men learn how they originate and by what agencies they are spread. Recognizing the dangers and the means of avoiding them, it is the duty of the medical man to point them out to the public and to advise for the public safety. Having done this, his concern is no greater than that of every other intelligent citizen. Medical men are, as it were, outlooks on the ship of life and when they point out the shoals and sunken rocks it becomes the duty of the men in command and who constitute the government to see that the warning is heeded. The medical profession, at least the intelligent part of it, is now conversant with the means necessary to avert this danger. Will the nation heed the warning, or will it drive recklessly on, wrecking lives needlessly?

The National Association for the Study and Restriction of Tuberculosis has been formed and it wishes to enlist the co-operation of every intelligent man and woman in this country in the great work of emancipating our people from the fearful tyranny of the white plague. Is not this call worthy of your attention? What greater good can you do yourself and your fellow man? How is it proposed to accomplish this work? In the first place we want the facts made known to the people. We desire to carry on a campaign of education in regard to this matter, believing that as soon as the people generally see the necessity of taking hold of it they will do it in sufficient numbers and with energy enough to make it a success. We want intelligent men and women to instruct the people by talks and through books and pamphlets on the subject. We



want the States to build and equip sanatoria in which those in the incipient stages of the disease may be cured and where all infected persons may be instructed in the care needed to be exercised in order that the disease may not be transmitted to others. We want to restrict the disease by teaching consumptives, and others as well, that they should not expectorate on the streets, on the floors of places of public assembly, in the cars and other vehicles of public conveyance, and, in short, anywhere and everywhere except in proper receptacles that may be burned with their dangerous contents.

Tuberculosis is so seldom transmitted from mother to child during intra-uterine life that we may say it is not hereditary; it is not due to colds; it does not confine its ravages to the poor or to the rich, to the weak or strong. It is no respecter of persons or position. Let no one say this is a matter in which he has no concern; it involves the welfare of the race. There is no absolute immunity to this disease inheritable from your ancestors or acquirable in any way by you. So long as you move among your fellow men, with no care given to the restriction of this disease, you may acquire it. There is for tuberculosis no preventive inoculation or vaccination for the individual, but there is the possibility of eradicating it from the race. This is a matter in which concerted action is necessary. There are in the United States today more than 250,000 people in the active stages of tuberculosis. Without education along lines of prevention each one of these becomes a center for the spread of the disease. With attention to the disinfection of his discharges there would be no danger of the spread of the disease. The consumptive, so long as he is ignorant or careless, is a source of danger to the public as well as to his immediate friends. When he becomes informed concerning the nature of his malady and the method of its restriction, he can go where he pleases so long as he is able, and does no one any harm. When all are educated in the methods of restriction and these are carried out, no harm can come to anyone. Today residence in a hospital filled with consumptives is perfectly safe if the discharges be properly collected and disinfected. There is no reason why the tubercular individual should be shunned or isolated.

I have stated that there should be built sanatoria for consumptives. What would be the function of these institutions? The most important objects are as follows: (1) Experience

in sanatoria has shown that under proper management the disease can be arrested or cured in a large per cent. of incipient cases. One function would be the cure of curable cases. (2) Even in the incurable the progress of the disease may often be greatly retarded and on the average many years of comfortable living may be added to the lives of those who must ultimately die of this disease. This would be a second function of the sanatoria. (3) All the infected, both the curable and the incurable, could be so instructed in the methods of caring for themselves and destroying the infected discharges from their bodies that the disease would not be spread.

Every intelligent man and woman in the state should become directly and actively interested in this work. The physicians should always be on the alert to detect the disease in its earliest stages, for it is at this time that it yields such a large per cent. of cures. Only a few years ago the doctor was quite loath to tell his patient that he had consumption, because it often seemed equivalent to telling him he must die. Moreover, even the most intelligent physician of that time did not possess the knowledge necessary to make an early diagnosis. Now, all of this is radically changed. The time has passed when the physician can make a careless examination and say "it is only bronchitis, or a continued cold," or something of that kind. The physician who does so today, when his patient really has tuberculosis, is guilty of a highly negligent, I should say, a criminal act. An early diagnosis can be made in the great majority of cases and the physician can say plainly to his patient: "You have tuberculosis, but there is no other grave disease from which so many people recover if it be recognized in time and treated intelligently." The physician can speak positively and confidently. It has been my privilege for many years past to deal almost exclusively with tuberculous patients. Frequently a husband comes in to me and says, "I think my wife has tuberculosis; please examine her, but if she has the disease do not tell her." But I say, "I do not do that kind of work. If she has tuberculosis I will tell her so and tell her she must fight for her life," and lay down the rules on which this warfare is to be carried out. The day is past when the physician need see his patient helplessly drift into the last stages of the disease while he administers worthless placebos. When both physician and patient universally arrive at an intelligent understanding of this sub-



ject no one will reach the stage of exhaustion now so typical of this disease. The threatened one will seek aid early and his physician will be able to give him what he seeks. Every one who has any reason to suspect the implantation of tuberculosis should be examined at least twice a year even when he is apparently doing well, and the physician to whom he comes should make a most searching and scientific examination. So far as tuberculosis is concerned, at least, medicine is fast leaving the quicksands of uncertainty and planting itself on the solid earth of science.

There is another most beneficent and humane object to be accomplished by these state sanatoria for tuberculosis. As one whose practice has been largely with this disease for many years, I have had occasion frequently to realize that the arrest of tuberculosis is often a matter of dollars. The rich patient can procure the best food, he can rest from work and he can place himself under the most favorable surroundings. All of these things are denied the poor, but now the state is to provide for the poor even that which the rich could 25 years ago but partially secure. The State Sanatorium will be a great, a deserved and a wise charity. To support such an institution by public taxation is a legitimate method of taking from the rich and giving to the poor, and the rich should pay taxes for this purpose most willingly for two reasons. In the first place, he is thus diminishing the chance of becoming infected himself, and in the second place he is restoring the poor to a state of health in which he will be able to provide for himself.

I hope that the people of this great state with the good repute for wisdom that they have, will take hold of this matter with the determination to rid themselves of this disease. We should begin by the formation of anti-tuberculosis societies in all of our cities. I wish you could have the enthusiasm that is now found in Germany concerning the restriction of tuberculosis. You hear it over there from the merchant, from the clerk, from the cabman that takes you to the depot, "Ein Deutschland ohne Tuberculose." Shall we not also have a United States of America without tuberculosis? There are in every city some who are in the active stage of tuberculosis and who are ignorant of the fact that they are a menace to the lives of others. Some of these are poor and must work as long as they are able, and in the factories and work shops, in the houses of business where these people are employed they

are endangering the lives of their fellow-workers, employees and their customers. These people need to be shown that this is true and instructed in the methods of prevention and then, if able to do so, they can continue their work without being a source of danger to others. Three hundred years ago leprosy was as widely distributed in Europe as tuberculosis is today. But our hard-headed ancestors rid themselves of this disease. Three hundred years ago there were 1,900 leper hospitals in Western Europe. A leper could live only in one of these hospitals. If he traveled by day he must wear a distinctive garb, and at night a bell attached to his garments heralded his approach. Leprosy has disappeared from Europe. Shall we not do the same in a much more humane and civilized way with tuberculosis?

The exhaled air from the lungs of consumptives, even in the last stages of the disease, is germ free, and there is no danger of acquiring the disease by simply being in the presence of the consumptive. I have been greatly surprised in some places that people are afraid to have a hospital or sanatorium for the treatment of tuberculosis located among them.

I suppose if some one would tell you now that Hagenbeck's train had got wrecked in this city and all the animals had escaped, the bravest here would hesitate about leaving the hall; but if Hagenbeck came here with the animals all caged you would be glad to go and see them perform. It is the same with the bacillus of tuberculosis; only you might see the lion and hear its roar, but the tubercular bacillus gets in its work without any such accompaniment. When the consumptive coughs, germs are often thrown from the mouth in the spray from coughing, and a handkerchief or a Japanese napkin should be held before the mouth in coughing. Then the matter coughed up from the lungs of the consumptive in the active stages contains the germs in great numbers. If this be thrown on the floor or sidewalk it dries and is blown about in the dust by the wind and may be inhaled by any one. Uninfected dust cannot cause tuberculosis. It is only when the bacilli of this disease are introduced into the dust of our streets and houses that there is danger of the spread of the disease in this way. When the consumptive expectorates on the pavement, the bacilli are scattered by the wind and adhere to our feet and clothing and are brought into our houses. Some one said to me not long ago, that these infectious diseases are a good

thing for the human race. They kill off the people who ought to die, and in the long run the race is a great deal better for it. Now suppose a consumptive expectorates on the streets of Detroit; do you suppose that only the vicious and the wicked are going to inhale the germs that are blown about in the air? You might just as well, with just as much sense, place two men blindfolded at each street intersection in Detroit, and march every man, woman and child up and down the streets, and place in the hands of these blindfolded men repeating rifles and tell them to shoot into the crowd as it went by. Do you suppose that only the vicious, only the liars and the thieves would be killed? Have we, the intelligent people of the United States, not reached the stage when we should say to the bacillus tuberculosis, or the germ of any other disease, we will not trust to your intelligence in selecting those who should live and those who should die? Man has already accomplished great things in the restriction of the infectious diseases, many of which, such as the plague and typhus fever, which once greatly increased mortality, are now known to exist only in those nooks and corners of the world where the conditions of life on account of ignorance, superstition and poverty are most unfavorable. Within one hundred years the average of human life has been nearly or quite doubled, and yet the majority of deaths happen prematurely and there is no reason why, if we only put to practical use the knowledge we already have, the average length of life should not again be doubled. Think what might be accomplished in a city like this if all your good citizens could be interested in the work. You would have a special hospital for the treatment and education of consumptives. Many would be cured and all would be instructed in the method of restricting the disease. You should have a dispensary where suspicious cases could be examined and the disease detected in its incipency. A corps of trained nurses and physicians attached to this dispensary would be in readiness to visit the infected homes, disinfect the premises, detect and abate any sanitary deficiencies, and teach the people how to avoid infection. Would it not be a wise move to embark in this work? What better service could you render yourselves and your fellow-citizens? But some are too busy, some are too indifferent and there remain only a few who are likely to be moved by motives of this kind. Let these few embark on a

campaign of education, and others, seeing the good example, will surely follow.

This is not a crusade in behalf of the doctors. They have nothing to gain by this. In fact, we are impoverishing our own pockets by the crusade that we are preaching all over the country today. I am often reminded of a governor of our state, who, a few years ago, was called upon to preside over a convention where doctors were assembled from Maine to Texas, and from the Dakotas to the gulf, to instruct people as to how to prevent disease; and when he made his opening address the governor said: "If, during my term as governor, I should be called upon to preside at a meeting of lawyers met for the purpose of preventing litigation, I would say with Simeon of old: 'Lord, now lettest thou thy servant depart in peace, for mine eyes have seen thy salvation.'"

It is strange and disheartening when we see how slowly that knowledge which may be utilized for man's good diffuses through the masses, and how tardy people are in applying beneficial discoveries. We grow impatient, while people call us sanitary cranks and pay no heed to the teachings of science, but those of us who are not pessimists, and God pity those who are, must believe that the growth of the race is toward perfection and that it will not deteriorate.

What sanitary science can do is conclusively shown by the interference of the United States in Cuban affairs. When the historian of the future comes to write of the little war we had with Spain, he may be in doubt as to whether Sampson or Schley won the victory at Santiago; he may be in doubt whether Shafter was or was not too heavy to conduct the land campaign, but the most brilliant page in that history will be the work of Reed, who banished yellow fever from Havana, and the work of Gorgas, who made Havana a healthier city today than New York.

The knowledge that we have concerning the causation and spread of tuberculosis is not theoretical. It is positive and practical. If the dust of a room that has been occupied by a consumptive who has been ignorant and careless and has expectorated on the floor, be swept up and injected into a guinea pig, the animal develops tuberculosis. On the other hand, the dust from rooms not infected, even if it be a hospital in which there are many tuberculous patients who have been intelligently practising the methods of restriction, when injected into like animals has

no such effect. The bacilli are not given off from moist sputum. It is only after the expectoration has dried that its contained bacilli become diffusible in the air. Handkerchiefs and clothing soiled with infected sputum should be disinfected before the discharges dry and become transmissible through the air. While tuberculosis is not a hereditary disease, we know that it runs in families and that the children of consumptive parents have an increased susceptibility to the disease. Such people should take the utmost precautions against infection and should be carefully and thoroughly examined at least twice a year by a competent physician.

I cannot resist the temptation to say parenthetically that anything which cheapens food to the poor, places within the reach of the poor man the chance of getting the best food in sufficient quantity, is an aid in the treatment of tuberculosis; and I want to say on my own responsibility, that a government that allows such a thing as the beef trust to exist, aids and abets in the spread of tuberculosis, and is doing a criminal act. Rest, and abundance of good food, without, or with but little medication, suffice to lead incipient cases to recovery. The value of climate *per se* has been greatly overestimated and incipient cases can be as easily cured in Michigan as in Colorado. There can be no doubt that removal from infected localities and life in an equable clime, where the proportion of sunshine, nature's great disinfectant, is greatest, are beneficial because continued reinfection is one of the greatest sources of danger to the infected. But if the discharges of tubercular individuals be destroyed all chance of infection is done away with, and when this is done, Michigan will be free from this disease. Experience in sanatoria for the treatment of tuberculosis both in Europe and in this country has demonstrated that climate is not of prime importance. At the Phipps Institute in Philadelphia Dr. Flick states that the results compare favorably with those obtained in climates once regarded as essential to the cure of the disease.

I would not have you understand that the extinction of the bacillus tuberculosis is to be an easy task. It will require time, patience, and, above all, intelligence. If all the infected discharges from every tubercular individual could be immediately destroyed the disease would disappear in one generation. There would be no new implantations and with the death of the last infected person the disease would disappear. But

this possibility we must not hope to realize. The task before us, while plain, is a herculean one, and one which will require the best efforts of the race through more than one generation. We must provide sanatoria not only for incipient cases, but for the advanced ones as well, for it is from the latter largely, that the disease is spread. In the advanced stage the sputum is likely to be most abundant and richest in bacilli, and as the patient grows weaker he is less attentive to the disposition of his sputum, and he is likely to scatter the bacilli all about him; therefore there must be sanatoria for the care and treatment of persons in the late stages of tuberculosis. I would not have it understood that such institutions should be regarded as homes for incurables, and that scientific treatment should be disregarded. As long as the consumptive lives every possible aid should be given him and the number of apparently hopeless cases that improve is surprisingly large. As Dr. Flick has pointed out, much in the restriction of tuberculosis—by taking care of the dying consumptive—has been done in London. He says: "A little over fifty years ago the English people began to establish hospitals for consumptives in London as a matter of humanity. The work met with favor and the beds gradually increased until they numbered thousands. At that time the death rate from consumption in London was about the same as that in Paris and all the large cities in the world, namely, about four per thousand. No other preventive measure was introduced in London. At the end of fifty years, London, the largest city in the world, had the lowest death rate from consumption of all, about two per thousand, and Paris, where no consumptive hospitals had been established, still has its four deaths per thousand from the disease."

If tuberculosis goes on decreasing in such cities as Hamburg, where they have for the last ten or twelve years had sanatoria for the treatment of incipient tuberculosis, at the same rate, the century will not be far advanced before tuberculosis will be known only as a historical disease.

Consumption is largely due to in-door life, and the more crowded habitations are the greater is the prevalence of the disease. Statistics show that this disease prevails in direct proportion to the number of individuals occupying a room. This is the reason why it is so frequently seen among those who dwell in the poor and crowded tenements of the large cities in all parts of the world. It must not be inferred, however, that tubercu-

losis is wholly an urban disease. There are many farm houses in Michigan infected with its bacilli, and the farmer, who spends such a large part of his working hours in the open air, often sleeps in a small, unventilated bedroom, and the good effect of his life in the open air is vitiated by the conditions prevailing in his home, and his wife and children are more closely confined to the insanitary habitation. I often think that civilized man has overdone his housing. In his desire to protect himself from beasts, his enemies, and the rigors of the weather, he has gone to an extreme and seems to think that he can eat, sleep and rest only under cover, when in truth we would be much healthier and happier if we spent more time out of doors. Even the well-to-do at great expense have large and beautiful lawns about their houses, but they do not live on them, they shut themselves in their houses, keep others out of their private parks, and only look at them themselves. The average American is so afraid of taking cold that he does not allow himself enough fresh air to breathe. I think that it is within the bounds of truth to say that more harm comes to the health of the average American from his senseless fear of taking cold than ever comes to him from exposure to inclemency of weather. We should live out of doors in nice summer weather, and we should sleep with open windows at all seasons.

The time is too short for me to discuss all the precautions necessary to avoid becoming infected with the bacillus of tuberculosis, or to get relief after infection. We know that this, the greatest scourge to our race, is a preventable disease; therefore let us prevent it. Let us inaugurate this great work, which, when it is fully done by our descendants, will be the greatest of human achievements. I hold that man has already reached a position of intelligence and responsibility in which he becomes a co-worker with the Creator in the betterment of himself and his brother. Our future lies largely in our own hands. Shall we move onward toward the promised land of human perfection, or shall we admit that life is a failure and that the race is without the opportunity of betterment? If we can make this world a fairer habitation for happier and better generations we should seek no nobler task and ask no higher reward.

## TUBERCULOSIS IN MICHIGAN.

FRANK W. SHUMWAY, M. D.,  
Secretary of the State Board of Health.

Every individual case of tuberculosis is a center of infection and can and should be safeguarded. How?

Before taking up the "how" part of the subject, I want to just briefly outline the several ways and conditions under which tuberculous persons become or are centers of infection; and bear in mind I have reference in this paper mainly to the incipient or walking cases of this disease, where the cough and expectoration are a prominent feature, for therein lies the great danger of contagion, and in my judgment it is toward this class of cases that our efforts should be directed where the most good can be accomplished.

Being no respecter of persons, tuberculosis attacks all people alike, the rich and the poor, the high and the low, the good and the bad, the rich man in his palace as well as the poor man in his tenement home; but owing to the many outside or contributory causes such as occupations, and unsanitary conditions at work and in his home surroundings, that come to the person in moderate or poor circumstances, tuberculosis finds more ready victims among this class; and the importance of the problem is emphasized when you take into account the fact that necessity in the form of grim poverty often compels the victim as wage-earner of the family to continue at his employment (disguising or denying the fact that this disease is present, even after being so informed by the physician) until it passes into the advanced stage, and relief which should have been accorded the individual, is denied him.

This individual must then of necessity under these conditions become a center of infection to his or her family, to the associates in the shop, factory, office or store.

Again, the teacher in the school room, generally a woman, working in an overcrowded room, imperfectly ventilated, breathing an atmosphere dust-laden and germ-infected, contracts the disease, but still she continues at her desk unmindful of her cough, the labored breathing and gradual loss of strength, unmindful or careless of the fact that she is a center of infection to fifty or sixty pupils coming in daily contact with her. The school boards themselves are not al-



ways clear-sighted in this matter, and not infrequently allow such a condition to continue (whether from mistaken sympathy or false economy, the menace to the children remains the same) long after the necessity for removal of the teacher appears. We pension old soldiers and their dependents out of gratitude for their services. Is it not strange we fail to pension tuberculous school teachers out of mere protection to our children?

Again, take the indigent poor in our county houses who are afflicted with this disease. In a great majority of cases no provision is made for isolating them from the other inmates, no special treatment given and little if any attention given to restrictive measures.

I might go on and enumerate other conditions under which the individual becomes or is a center of infection, but it is not necessary, for we must all concede the fact that they are. And when we take into account the further fact that of 2,800 cases (in round numbers) which come annually to the knowledge of the State Department of Health, only about three-fifths are reported to the department by the local boards of health, or to be more explicit, out of the 2,800 cases only about 1,680 receive instruction from the department and are in sympathy with our sanitary laws sufficiently to co-operate with us to prevent the spread of the disease. Scatter the other 1,120 over the State as centers of infection together with the great number of cases that we know exist but are never reported or recorded and you have the situation as it exists in Michigan today.

This being true, our task is to enlighten, to educate every individual who shows signs of the disease. How to reach tuberculous subjects and control them in the early stages of their infection, I desire to consider with you; and I believe it will be profitable and interesting to do this in connection with a review of the present factors working toward that end.

We naturally turn our searchlight upon those organizations and institutions which profess devotion to the cause of the sick, the suffering, and the destitute, such as hospitals, sanatoria, county homes, state institutions, etc. By letters of inquiry sent out to 212 such institutions and retreats in 1906, the State Department has been able to obtain information concerning the general attitude of these institutions toward tuberculous subjects, and to what extent they admit and treat them.

Replies were received from the majority of all

the institutions: from about three-fifths of the hospitals, sanatoria; from four-fifths of the State institutions, and from four-fifths of the county homes. Of the county homes and State institutions, the majority admit *any* eligible person, regardless of his tuberculous symptoms. The majority of hospitals, sanatoria, etc., on the other hand, *exclude* all tuberculous persons. Of the hospitals and kindred institutions, only eleven admit a tubercular patient, whether an incurable, a moderate or walking case, and the necessary sanitary precautions are reported as being enforced. Out of these eleven, six appear to enforce hygienic treatment of their patients, including fresh air and forced-feeding. Twenty hospitals and kindred institutions, including the above-mentioned eleven, admit incipient cases; fifteen admit walking cases, and thirteen admit incurable cases. While nearly all of these enforce the necessary sanitary precautions, only a few provide special curative treatment. That is, while about twenty per cent of all the hospitals and kindred institutions in Michigan report that they *admit* tuberculous subjects, only about ten per cent take any steps to cure them. It would appear that patients are, as a rule, admitted to these institutions on some other complaint or ailment, and while there they receive sanitary protection and instruction as to their tubercular condition. That the hospitals enforce precautionary measures to prevent any tuberculous patient from infecting his neighbor in the hospital is but a practical business policy; and we conclude, therefore, that so few hospitals taking steps to afford cure for tuberculous subjects, only a very small percentage of such subjects derive any benefit from such institutions, and they must look elsewhere for shelter, care and treatment.

While the foregoing account relates to the general hospitals, we find that in the establishment of special hospitals for tuberculous subjects, Michigan has made a small beginning. As far as our information goes, we can mention two private institutions for such patients, one in Kalamazoo, one in Niles. There are, however, but two *public* institutions especially for tuberculous persons in Michigan: the Tuberculosis Sanatorium at Howell, established and maintained by the State, and the Tuberculosis Hospital at Grand Rapids, established for city subjects and maintained by the city. Last spring, a movement was rumored to be on foot in the city of Kalamazoo for the establishment of a tuberculosis colony there, for the control of its city cases, a

most worthy, urgent movement; but we are not informed that any substantial progress has been made. The citizens at large in Michigan who are today afflicted with tuberculosis must look to the State Sanatorium for their relief and cure and instruction how to prevent the disease from spreading. The State Sanatorium will do all it can to take care of this situation; it will do a noble and humane work; but let us not for one moment think that it is the goal of our fight against tuberculosis! It is but the guide post. It cannot alone quench this fire wasting our inhabitants and their efficiency; it is but a drop in the bucket. In truth, the sanatorium is but the opening wedge to pry off that heavy lid of public apathy which shuts in opportunity for greater efficiency. Truly, to meet the need we might well emulate our Grand Rapids friends. The fruit of the labors of such men as Dr. Collins H. Johnson and others is at hand. A home for poor people afflicted with tuberculosis, where they can be taken care of at city expense, wisely instructed, faithfully watched, properly clothed, fed and sheltered, where their only sacrifice and loss is their wages, which they can contrive for a time to suffer,—here is a concrete reward for those public-spirited, progressive citizens who have devoted so much of their time fighting against tuberculosis, talking before the people of their city, organizing the thinking and influential citizens, all efforts bent to one end, to stamp out this disease.

I believe such a city hospital or retreat devoted to tuberculous subjects is the need of every locality in Michigan, and that working toward the realization of one is the proper and urgent line of attack for this anti-tuberculosis association, for the organized medical societies, for the enthusiastic and progressive practitioner. The family physician more than any other individual worker in the cause of health, has a great opportunity for making this fight against tuberculosis efficacious. His singular opportunity creates an important responsibility, not only as an individual, but as a unit, also, of the medical society. Whip your medical societies into line, gentlemen; do what you can to make them represent far more than they do at the present time this progressive stand against tuberculosis in your community.

I believe that the condition as relates to tuberculosis in our county home can be greatly improved. While not as exclusive as the general hospitals and sanatoria, the county homes show no such facilities for taking care of tuberculous patients. Out of fifty making reports to us, fif-

teen only observe the proper disinfection or destruction of the sputum, in addition to keeping the patient in a separate room. In three instances only the advanced cases are reported as kept in separate rooms. Fourteen homes report the enforcement of the care of the sputum only. Two, alone, show any attempt to give the out-of-door and forced-feeding treatment. The Kalamazoo County Home and the Wayne County Home both stand for progressive policy, and make a specialty of tuberculous cases. Indigent persons necessarily imply some physical deficiency; old age, some specific disability, shiftlessness, or what not, and are therefore a class peculiarly susceptible to the contraction of this disease. The inmates of our county homes should be protected against any possible spread of infection from another inmate. They are prisoners there through a destiny they cannot master, and are forced to accept their lot whether it be life-giving or death-dealing. Whether they are properly safeguarded depends, without doubt, upon the professional intelligence and personal conscience of the county physician. This scattering, inefficient observance of protective measures in our county homes, as shown by the data given above, should be corrected, and here, I believe, we, as sanitarians, may make a specific beginning and accomplish some definitely beneficial results.

The province of the State Board of Health, its efforts put forth in the direction of educating the public in connection with the local boards of health (some 1,600) is, I am sure, familiar to you all. But there is one point which, in conclusion, I wish to bring out with emphasis.

In the foregoing part of this paper it was suggested that a large number, probably several thousand, of cases are apparently never under sanitary supervision. These we must reach. Again, even in those cases under the supervision of the health officer, we do not always find complete observance of the precautionary measures. In the two years 1904 and 1905 we find that the disinfection of the sputum was thorough in only forty per cent of all reported cases; that of the articles likely to be soiled by sputa, only forty-two per cent were thoroughly disinfected; of the bowel and bladder discharges, only eighteen per cent were disinfected properly; and of rooms, only thirty-seven per cent were thoroughly disinfected. Here, then, too, we need to take up our work. We must knit together into one serviceable fabric all of the forces having to do with the complete control of these thousands of tuber-

culous cases. One force is the individual himself, another is his physician, a third, the local health authorities, and lastly the State Department of Health and its bacteriological laboratory. The suspicion on the part of the physician of an incipient case of tuberculosis can be verified or relieved by having the local health officer send a sample of sputum to the bacteriological laboratory recently established in connection with the State Board of Health. Right here, let me emphasize, is the first important step. Locate your enemy, take aim, then fire. Aside from this practical use of your local health official, make the local board itself more aggressively an educational factor in your community; dislodge it from its present limitations; make it what it in reality should be, a bureau of information in sanitary matters, the hub from which radiates efficient public health work. With the practical use and benefit and knowledge the laymen all over the State are to derive from our State Bacteriological Laboratory, I look to that time when the people at large will not so stubbornly resist this fight against tuberculosis. The tradition of personal aversion to the idea that one has tuberculosis, the present difficulty of getting a consumptive to realize or admit his affliction, is founded, I believe, in the heretofore accepted fatality of the disease. It was contemplating death itself, and from that every human heart shrinks. But with the history of cures of persons far advanced in tuberculosis, with their finding out that a timely analysis of sputum is the basis of definite courses toward the eradication of the disease and their cure, with their recognizing that to admit the presence of the disease is to lock the barn door before the horse is stolen,—a few grains of confidence scattered from this educational plant, the laboratory, I am confident will greatly increase our harvest of public co-operation and ultimate efficiency and happiness. It may be of interest here to mention the plan of the State Department of Health to publish as early as may be a set of instructions in foreign languages, as Polish, Finnish, Scandinavian, Italian, German, etc., relative to the necessary precautions in cases of tuberculosis. It is proposed to make such instructions convenient to the use of the profession, and through them to obtain their more complete distribution where needed.

In my judgment, therefore, since only by education of the individual can we hope to succeed, it is up to this Association, to the sanitarians, and to the medical profession of our State, espe-

cially the family physician, to co-operate with his local board of health, and through that with the State Department of Health and the bacteriological laboratory, to the end that this dread disease with its high mortality rate, entailing untold suffering upon thousands within our State, may be brought under subjection.

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### TUBERCULOSIS PROBLEM IN DETROIT.

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GUY L. KIEFER, M. D.,  
Health Officer, Detroit.

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Tuberculosis in Detroit is a sad subject and yet I am gratified with the opportunity of talking on this subject to so many persons interested in the prevention of this terrible disease. I have been asked by both the chairman and secretary of this committee to make my talk brief, to limit it to ten minutes. I will try to say all that it seems to me to be absolutely necessary to say in that short time, but I ask your indulgence if I should transgress.

I have said on many previous occasions that public health work depends for its success largely on the co-operation that is given the public officials by the medical fraternity and by the public. I believe I can say without fear of contradiction that Detroit may be justly proud of the scarcity within her boundaries of contagious and infectious diseases with the exception of tuberculosis, or, more broadly speaking, diseases of the chest. The conditions, as far as contagious diseases in general in Detroit are concerned, are good, exceptionally good, but in regard to tuberculosis they are bad and I may say, truthfully indeed, exceptionally bad. This indicates then that in our fight against nearly all of the diseases we have had the hearty co-operation of the medical profession and the public, but in the case of tuberculosis alone the co-operation has been lacking.

Let us look at the history of the fight against tuberculosis in this city. Long before my advent as health officer, the Board of Health determined that notification and registration of all cases of tuberculosis was necessary and they demanded reports from the physicians. What was the result? Our most prominent physicians, men rated as specialists in diseases of the lungs, refused to recognize this demand, this first step in the pro-



posed fight against the common enemy, taking the position that tuberculosis is not contagious in the same sense as diphtheria, scarlet fever and small-pox. This antagonism resulted in unsettling the question of reporting cases in Detroit so completely that we have never recovered from it, and although the case was never decided it is impossible even now to get reports of tuberculosis.

What was the next step taken to prevent this disease? The Board of Health determined to secure legislation regulating the spitting nuisance. One of the first things done during my administration was the passage and publication of an order by the Board of Health forbidding spitting. Notices were put up in street cars and other public places and as educational propaganda they had some effect, but when it came to enforcing our new regulation, we were informed by the corporation counsel that it was only a rule of the board and not, in effect, an ordinance. Subsequently we succeeded in having an ordinance forbidding spitting in public places, but public sentiment has never been strongly enough back of this law to make it possible of enforcement. Complaints have been made from time to time, but no punishment has ever been meted out to the guilty spitters and the complaints have even been made light of by the courts and the public press. Nevertheless the "don't spit" signs have done some good and the habit is not nearly as universal as it has been in the past.

The disinfection of houses in which tuberculosis has existed is limited almost entirely to houses in which persons suffering from the disease have died. We realize that the living cases that move from place to place should be kept track of and their houses disinfected, but here again we are handicapped, because these cases are not reported. In order to spread the doctrine of fresh air, proper food and sunlight and to get the public interested, we succeeded about two years ago in bringing the exhibit of the National Association for the Study and Prevention of Tuberculosis to Detroit. At that time I invited all the physicians who have specialized in these diseases or who have in any way shown an interest in this subject to act on the local committee. We obtained good speakers from other cities. We published notices of the exhibit and lectures in every conceivable way, sending out, among other things, 100,000 hand bills, and yet we succeeded in getting an attendance all told of about 9,000 persons as compared with 52,000 in the city of Milwaukee. The opening afternoon was intended especially for

physicians. We solicited their interest and cooperation by special invitation, but as I remember it, out of the 800 registered physicians in Detroit some twenty were present at our meeting. When the exhibit was over one of the older practitioners of our beautiful city busied himself by telling people that this exhibit was only a political scheme to advertise the health officer and some of his friends.

Medical inspection of schools is well established in Detroit and more attention will be paid in the future to cases of tuberculosis among the children. It is the intention of the Board of Health to require a complete physical examination of each school child at least once a year, as soon as we can enlarge the work of medical school inspection, which we hope will not be later than next fall.

The smoke and dust nuisance are receiving proper attention on the part of the Board of Health. The smoke ordinance, so-called, was first introduced upon the recommendation of Health Commissioner S. T. Douglas, and although its enforcement has been somewhat slow, we are gaining ground every day.

In April, 1906, we established in the Board of Health building a so-called "Tuberculosis Clinic." Dr. V. C. Vaughan, Jr., volunteered his services for this work and has remained in charge of the clinic since its beginning. The object of the "Tuberculosis Clinic" is, by offering and giving free advice to tuberculosis patients, to reach their homes and teach prevention among their families and friends. We have had the co-operation and hearty support of the Visiting Nurse Association in this work and the city owes this association a debt of gratitude. We have appealed to the Board of Poor Commissioners and to the physicians of Detroit to send us cases, but the growth of the clinic has been slow. Last summer the Board of Health obtained an appropriation of \$600 to be used for the "Care of Tuberculosis Patients." This fall we began furnishing milk and eggs to our patients and in order to follow up this work the Visiting Nurse Association has given us a nurse who devotes her entire time to our tuberculosis work. With all of this willingness on the part of the Board of Health and their volunteer nurse and physician, we have at present only about twelve or fifteen patients and houses under observation. Why aren't we overrun with work? Certainly there are hundreds of worthy poor cases in the city, a proper supervision of which would lead to a certain restriction of the disease in the very quarters in which it is most prevalent. The other



day a prominent physician, attending at one of our large dispensaries, said to me: "Suppose, doctor, we have a suspicious tuberculosis case at our dispensary, can we send it to your clinic for diagnosis, clinical and bacteriological, and if it is not tuberculosis, will you return it? You see, we don't like to turn all of our cases over to some other clinic." The answer is: "Certainly you can. You can do more than that. Tell us of your cases. Let us send our nurse to their home and we will give them special diet if they need it and you say so, but we want them and you in return to observe all preventive measures. We are not here to increase the number of cases, but to limit them. We care nothing about the treatment except as an aid to the prevention. In the case of diphtheria and scarlet fever you can turn your poor cases right over to us to be sent to the hospital; why act so differently with tuberculosis? We are not going to run off with the patients."

Among the patients whom Dr. Vaughan has under observation, a few have learned to live out of doors entirely, all through the winter. We have found that it takes about three weeks for a patient to become accustomed to the out-door life and after that time they like it and feel so much better that they refuse to go back to the old stuffy rooms. The problem then presents itself, why not start a tuberculosis sanatorium for such patients somewhere in Detroit, with its principal object one of education for the patients, a sort of training school? Let the purpose be to keep each patient about a month, and then, after they have received their training, return them to their respective homes to continue the treatment and to preach the gospel of the cure and prevention of tuberculosis. This step has been undertaken. We have made a beginning. We now have a tuberculosis house with one patient, on a piece of ground owned by the city, in the northwest section of Detroit. If we can gradually increase the capacity so that twelve or fifteen cases can be thus cared for and instructed, we will, in the course of each year, graduate about 200 pupils from our tuberculosis sanatorium or training school and our campaign of education will then progress much more rapidly.

While all of this work has been going on under the direction of the Board of Health, various societies, organizations and individuals interested in the work have been laboring more or less independently along the same lines. The Detroit Society for the Study and Prevention of Tuberculosis was organized in the spring of 1905 and its

members were largely instrumental in the establishment of the State Sanatorium for Tuberculosis at Howell. The Visiting Nurse Association has devoted much time and attention to this work and the aid rendered by this society to the Board of Health has been invaluable. Without its support we could never have carried on our crusade to its present advanced lines. A society composed of the daughters of prominent families in Detroit, known as the Tau Beta Society, is doing excellent work in the restriction of this disease. Besides these organizations some of the physicians are individually lending their efforts toward the end of eventually ridding our city of tuberculosis.

In conclusion, what shall I say? In the language of the street, forceful if not elegant, everybody "boost, don't knock." Let us all work together for the accomplishment of this very worthy cause. Let us make public sentiment so strong that no one in the future dare violate the anti-spit ordinance. Let us all see to it that various laws bearing directly and indirectly upon this subject, are enforced because of the demands of public sentiment and public opinion. Let us all see to it that the fifteen hundred dollars asked by the Board of Health for this purpose for the coming year be allowed and, if necessary, as much more. In a word, let us co-operate, let us unite our efforts, now, altogether, let us succeed.

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### THE MICHIGAN STATE SANATORIUM FOR TUBERCULOSIS.

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FRANK B. LELAND,  
President of the Board of Trustees.

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Tuberculosis has long been known as the most potent enemy of mankind. Its ravages have far exceeded those of war, of pestilence, or of famine. From earliest history it has been known to exist, and until recently its victims were without hope. Neither are men the only objects of its attack, this disease being common in cattle and other domestic animals, as well as in animals *feræ naturæ* when they are brought under the subjection of man.

Tuberculosis long was considered an hereditary disease and the belief was general that heredity was to be blamed for the vast majority of cases. Now, you doctors, with the advancement of medi-

cal science have proven this belief to be entirely erroneous and have shown the cause of tuberculosis to be infection; that is, the transplanting of tubercle bacilli from one person or animal into another. It is only of recent years that we have known this. The cause once having been discovered, it has only remained to find a method for removing it.

Within the lives of most of us it has been found that the best way to combat tuberculosis is for the patient to live as much as possible in the open air, eat nourishing food and take only a limited amount of exercise, the latter, particularly, being regulated by the condition of the patient. This treatment has been found most efficacious, more particularly, of course, in incipient cases, it being claimed by the various sanatoria that from 85 to 90 per cent of such cases treated are either entirely cured or the disease permanently arrested. If this is true, the result of treatment applied to all incipient cases ultimately would result in an almost complete extermination of what has come universally to be termed "The Great White Plague." Manifestly, this ideal situation cannot be brought about suddenly and very probably never can be fully realized. However, the great strides made in the last ten or twenty years have brought the matter to the earnest attention of the entire civilized world. It has been shown that the treatment is far more successful in sanatoria designed and conducted for the purpose than in the home or elsewhere. For this reason many sanatoria have been constructed and are now in operation in most of the European countries and in many of the States of this country. Our own State has proved that it is alive to the situation, our physicians fully abreast of the times, and our law-makers inclined to render such assistance in this fight as the State legitimately can.

In 1905 an act was passed by our legislature providing for an appropriation of \$30,000 for the purpose of establishing a State Sanatorium for the care and treatment of persons having tuberculosis. The law provided for the appointment of a board of six trustees whose duty it was to select a suitable location, construct necessary buildings and under the authority of the State conduct a sanatorium. A further appropriation of \$62,000 for additional buildings and land, and \$16,000 for maintenance was passed by our legislature last year, bringing the total appropriations of the State for the purposes of this institution to the sum of \$108,000. Besides these appropri-

tions the sanatorium receives pay for the care of all patients, whether such patients are paid for by the counties of their residence or by the patients themselves. It will thus be seen, as it seems to me, that the State of Michigan has been exceedingly generous in the treatment of this question, involving, as it does, the lives, the health and the happiness of our people.

Under the act of three years ago above referred to Governor Warner appointed the first sanatorium board, and to me has been given the opportunity of telling you what has been accomplished by the State in this movement.

So great was the public interest in the matter that twenty-two towns offered sites for the consideration of the board, every one of which was visited either by the whole board or by some of its members, and several of them were visited a number of times. In the great majority of cases the citizens offered to contribute the whole or a part of the cost of the sites. The one finally selected is about three miles southwest of Howell and consists of 272 acres, 192 of which were given by the citizens of Howell, the purchase money being raised by popular subscription. The other eighty acres were purchased by the board.

The Sanatorium is located just under the summit of the hill, which is said to be the highest point in the lower peninsula of the State, the elevation being about 1100 feet. The soil is a sandy loam and is well adapted for pasturing purposes and for the growing of fruits and vegetables. It is the expectation that the greater part of the milk, eggs and vegetables required for the use of the Sanatorium will be raised on its own land. The site contains three pieces of wood land and has an abundance of springs which furnish an adequate supply of pure water, and all of which empty into a lake of several acres in extent, which is entirely on the Sanatorium grounds, and is well stocked with fish.

The Sanatorium buildings command a magnificent view of the country for approximately twenty miles in every direction. The country is rolling and the view very attractive.

The plan has been to accept only incipient cases, many of whom will be treated each year, and who it is hoped will return to their homes living examples of what can be accomplished in the cure of tuberculosis by proper diet, plenty of fresh air and a correct and healthful manner of living. It is believed that hundreds and thousands of our citizens will be permanently cured, or greatly benefited by treatment at the

sanatorium. But by far the greatest benefit to the people at large will be the educational results from the example and instruction of those who have enjoyed the benefit of a personal residence at the Sanatorium. It may well be taken for granted that all who have had the privilege of "Taking the Cure" under the charge and at least partially at the expense of the State, will be only too glad to render every possible assistance to others afflicted with the dreadful disease from the ravages of which, on account of this help, they have been able to escape.

The plan of the buildings contemplates a main or administration building and a number of so-called shacks, which latter will accommodate from four to sixteen patients each. The Administration building contains the laboratories, staff quarters, dining hall, kitchen, laundry, etc. The main or central part of this building is now nearing completion, the back end, in fact, having been occupied for several months. When completed this building will have two wings to be used as infirmaries, each of which will accommodate ten patients. These infirmaries are necessary for the use of patients requiring special care or nursing. Until the wings are constructed, rooms on the second floor of the Administration building will be used for infirmary purposes.

Three shacks are now completed and two of them occupied, one by male and the other by female patients. Each of these shacks has a large lobby or living room in the center, with ample bath and locker accommodations in the rear. Each of the two shacks now occupied accommodate sixteen patients, both having wings on each side used as wards, and each ward containing eight beds. The third shack, which has just been finished, contains accommodations for eight patients, and a still smaller shack for the accommodation of four patients will soon be ready for occupancy. All of these shacks are of the same general plan, are roomy and well constructed, one side of the wings being practically open but provided with large windows and doors or canvas curtains usually open but which can be closed in case of driving winds or storms. All have wide verandas in front; these verandas in some cases extending nearly around the shacks. Six patients can be accommodated in the main building aside from the wings, appropriation for the construction of which has not been made, so that it will be seen that the buildings already completed, or which will soon be finished, have accommodations for fifty patients, which number will be increased to

seventy when the plans of the board are carried out by the construction of wings on each side of the main building.

At the present time the Sanatorium has twenty patients, fourteen of whom are male and six female, the shack used for female patients having just been opened.

The institution is, therefore, now ready to take care of about twenty more patients, who will be admitted as fast as applications can be passed upon. The first shack has been occupied for about six months and an excellent opportunity afforded for testing the merits of the treatment. Reports to the board of the cases already treated show excellent results, very satisfactory gains having been recorded in almost every case.

It is the belief that in about two and one-half years from the time of the appointment of the Sanatorium Board it will be able to present to the State a practically completed institution as here described.

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### THE WOMAN'S CLUB IN THE FIGHT AGAINST TUBERCULOSIS.

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CAROLINE BARTLETT CRANE,  
Kalamazoo.

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*Mr. Chairman, and Ladies and Gentlemen:—* There is an ancient idea, still in fairly good health and reputation, that woman's sphere lies strictly within the precincts of the home; that the whole duty of woman is comprised in the operations of housekeeping and home-making, which include looking after the physical and moral welfare of the family.

But of late years two things have been noticeably happening. First, a great many of the traditional occupations of the housewife have been wooed away from her by men who have annexed them to their own sphere. Our baking and brewing and candlestick making are no longer ours; neither the fashioning of the clothing for husbands and sons, nor, necessarily, for ourselves. Our washer-lady is like as not a man, and a man comes and inserts a pneumatic tube through the window and cleans house for us. We bear the men no grudge for all this; we are rather ashamed that women themselves have not made more definite contributions to the progress of

matters domestic.

But, woman has hereby acquired a vast new leisure which would be highly dangerous to her and to society if she did not at the same time discover new duties to take the place of the lapsed ones. And this brings me to consideration of the second thing, in woman's world, which has been noticeably happening:

Just as these traditional occupations have been escaping from the home into the outside world, so new shapes from the outside world have invaded the home, attacked the home; have, in truth, rendered it impossible for even the most domestic and devoted woman to keep a really clear and wholesome home.

The germ-laden dust from dirty streets invades our homes; impure water, infected milk, diseased beef, bring poison to the best appointed family board; and so on, and so on. And women are beginning everywhere to see these things, and to all suggestions, polite or otherwise, that they should mind their own business and keep in their own sphere, they are gaining courage to answer after the manner of one woman who, when reproached in this fashion for pernicious activity in the interests of pure milk, replied: "Sir, I would have you understand that woman's sphere extends not only outside of the home but inside of the baby."

And now comes this tremendous concerted appeal to all civilized people to stamp out this plague of tuberculosis. And both justly and diplomatically, women are prominently included in this appeal. And I cannot do better than tell you what one great and powerful organization, numbering 800,000 women, is already doing.

The General Federation of Women's Clubs, at its last biennial convention, held in June, 1906, in St. Paul, passed the following resolution:

*Whereas*, Tuberculosis is the greatest scourge of the human race, causing more deaths than all other communicable diseases combined, except pneumonia; and

*Whereas*, It is communicable, almost wholly preventable, and often curable; and,

*Whereas*, It is believed by the concerted action of all the people the scourge can finally be overcome, its preventability and curability depending upon the education of the public; therefore,

*Be it resolved*, That the General Federation of Women's Clubs make the "Prevention and Cure of Tuberculosis" a subject of study for the next two years, and use every effort to disseminate the knowledge so obtained; and

*Be it further resolved*, That the officers of each State Federation and of every club co-operate with others in the same line of work in their respective States.

Mrs. R. P. Williams, of Massachusetts, is chairman and leader in this anti-tuberculosis campaign. Her plan, now being actively carried out, includes the appointment by the General Federation of a chairman in each of the forty-six States which shall form a health department for that State, the members of that department consisting of one representative from each club district (corresponding to congressional districts) of the State. Each member shall be chairman of a health department in her own district, and the members of her committee shall consist of the chairman of the department of Civics, Philanthropy and Social Service of the women's clubs of her district.

To quote from the prospectus of the General Federation chairman: "In this way, such general plans for the suppression of tuberculosis as may be applied equally well in every state, may be presented by the chairman of the Health Department, G. F., to the chairman of the health department of the forty-six State Federations, who, in turn, will present them to the chairman of the several State districts, and these latter will bring them to the notice of the chairmen of the local clubs who will appeal directly to the members.

It is recognized, however, that each State (as well as different parts of the same State) has problems peculiar to itself, and while all may co-operate along general lines, residents must study and solve the local problems."

This admirable plan includes many features which the limits of this paper will not permit of my describing, except that I must mention that close co-operation of local clubs with local medical societies and other organizations is a pronounced feature.

And will the women do much practical work towards the suppression of tuberculosis, or is this just a beautiful scheme on paper?

Remember that the club women of the country are credited by politicians with having secured the passage of the pure food law. They are the one most important factor in the campaign against child labor today. The National Forestry Commission is turning to the women's clubs of America as the best hope of saving our fast-vanishing forests. Thus the women's clubs are born to work, achieve work, and—have work thrust upon them—and why not? For to what



purpose are the women of America becoming "the leisure class" except it be a class with "a heart at leisure from itself" to do the work most needed in the world; the work of creating human conditions of life for human beings? And to help destroy the greatest enemy of the race today, tuberculosis, is surely a work to inspire the coldest and dumbest mind and heart.

Women are no longer content to take what derelicts of life are tossed to their care, and patch and ameliorate, a little here, a little there. They want to help attack the causes of human misery at their deep foundations, and to do vital, reconstructive work. And doing this they will come full circle back again to the sphere of the home; the home which is indeed to be the battleground of this great war in which men and women must fight always together.

## County Society News

### Fifth Councilor District.

The annual meeting and banquet of the Fifth Councilor District was held in the Pantlind Hotel in Grand Rapids, on Tuesday, March 3d.

The afternoon session, at which there were some 125 members present, including representatives from every county in the district, was called to order at 2:30 p. m. by our Councilor, Dr. R. H. Spencer. The following program was carried out:

"The Treatment of Joint Tuberculosis," Dr. E. H. Ochsner, Chicago.

Discussion by Drs. Mersen, of Holland; G. L. McBride, of Grand Rapids; S. C. Graves, Wm. Fuller, Ralph Apted, of Grand Rapids, and Dr. Hoag, Ionia.

"The Early Diagnosis and Late Complications in Inflammations of the Bile Tract," Dr. Schuyler C. Graves, Grand Rapids.

Discussion—Dr. Wm. Fuller, Dr. W. L. Barnes, of Ionia; Dr. Brook, of Grandville.

"The Duty of the Profession in Venereal Prophylaxis," Dr. Denslow Lewis, Chicago.

Discussion—Dr. D. G. Cook, Holland; Dr. T. C. Irwin, Grand Rapids; Rev. Wishart, Grand

Rapids, and Dr. J. A. McColl, Grand Rapids.

Dr. Ochsner read a very interesting paper describing his method and the results obtained in the immobilization treatment of tubercular joints.

Dr. Denslow Lewis urged a plan of education of the parents that they might instruct their children, the delivering of lectures on social hygiene to high school classes, the taking up of this subject in our lodges, civic clubs and Sunday noon classes, all of which education would tend to lessen the results that follow the so-called "Black Plague."

The discussion of these papers was free and full and indicated the interest that these subjects aroused in the members present.

At 7:00 p. m., eighty-five members sat down to the banquet table. Two hours were spent in doing justice to the menu that had been prepared and finally, when cigars were lighted, the members were entertained with the following responses to toasts:

Toastmaster—Dr. Collins H. Johnston.

"The Country Doctor," Dr. R. J. Walker, Saugatuck.

"Hard Pills to Take," Mr. S. Wesselius, attorney.

"Heart Murmurs," Dr. F. Lindsley Hoag, Ionia.

"The Clergy and the Medical Profession," Rev. Alfred Wishart, Grand Rapids.

"The Scope of Preventive Medicine," Dr. H. Ostrander, Kalamazoo, State President.

The banquet closed at 11 p. m. with all joining hands and singing "Auld Lang Syne." That the meeting was a success and enjoyed was evident by the general expression of satisfaction by all who were in attendance.

On Monday evening, March 2d, under the auspices of the Kent County Medical Society, a public meeting was held in the auditorium of the Ryerson Library in Grand Rapids.

Dr. Denslow Lewis, of Chicago, delivered an address on the "Present Consistent Public Attitude Towards Social Evils." For over an hour the doctor spoke forcibly and plainly upon this subject, taking for his keynote education of the child, in the home, in the school and in public life. After the address, there was a general discussion, in which clergymen, lawyers, physicians, laymen and some of the ladies took part.

F. C. WARSHUIS, Sec'y.

**Berrien.**

The officers of the Berrien County Society for 1908 are: Z. G. Walker, Benton Harbor, president; F. M. Kerry, Benton Harbor, vice-president; W. L. Wilson, St. Joseph, secretary; H. C. Hill, Benton Harbor, treasurer; F. R. Belknap, Benton Harbor, delegate to the Manistee meeting; R. C. Allen, St. Joseph, alternate.

W. L. WILSON, Sec'y.

**Grand Traverse.**

Dr. M. S. Gregory, of Traverse City, has resigned from the county society and taken a contract with the Order of Foresters. Contract work is not favored by our society.

SARA T. CHASE, Sec'y.

**Houghton.**

The regular monthly meeting of the Houghton County Society was held at Hancock, on Monday, March 2, 1908.

According to our semi-yearly schedule, the program was to have consisted of two separate papers on "Appendicitis" by Drs. Rodi of Calumet and West of Painsdale. The program committee, however, having gained the consent of these two men to postpone the reading of their papers until May, decided to devote the entire meeting to the anti-tuberculosis question and assume the initiative in the formation of the County Anti-Tuberculosis League to become affiliated with the state branch of the International Congress.

Accordingly, the society sent 150 invitations to representative business and professional men and women of the county, to which about forty responded, despite other exceedingly stronger counter attractions that evening.

Dr. Scott, the president, presiding, stated the object of the meeting and then Dr. Abrams, the Upper Peninsula delegate to the state meeting on tuberculosis, gave a very comprehensive talk on the proceedings of the meeting and re-outlined the object of the meeting. He was followed by several physicians, also ministers, lawyers, business men and women interested in clubs. All were decidedly interested and indicated their willingness and desire to co-operate in any way possible to aid the cause,

A motion was then carried that such a league be formed and Dr. Joy, of Calumet, was elected temporary chairman and Dr. Whitten temporary secretary. Thus the meeting passed from the medical society to the newly formed league.

Officers were then elected, also an executive committee, four or five from each town, including one physician. Dr. Joy was elected vice-president, he being the only physician on the list of officers.

The physicians elected on the executive committee were: W. K. West, Painsdale; R. B. Harkness, Houghton; N. S. McDonald and W. H. Dodge, Hancock; A. I. Lawbaugh, Calumet; P. D. Bourland, Lake Linden; E. T. Abrams, Dollar Bay.

W. D. WHITTEN, Sec'y.

**Mason.**

At a meeting of the Mason County Medical Society, held in Scottsville, March 17, it was voted to give a picnic for the nurses attending the State Nurses' Convention in Ludington, June 30, July 1 and 2. The picnic will be held on the second of July, the last day of the meeting, at Hamlin Lake, a summer resort, nine miles from the city, and will be under the auspices of the Mason County Society.

E. G. GRAY, Sec'y.

**Endorsement of the Work of the Michigan State Medical Board**, from Presidential Address of Henry B. Ward, A. B., LL.D., Dean of the Department of Medicine, University of Nebraska, at meeting of Association of American Medical Colleges, Cleveland, Ohio, March 16-17, 1908.

**ASSOCIATION ENTRANCE REQUIREMENTS.**

"With regard to standard requirements for entrance to medical colleges there is as little agreement as in other matters. In the place of the meaningless expression 'a high school course,' this association was the first to advocate the introduction of further regulations specifying the length and character of such a course. In the working out of this problem our present standard owes much to the splendid work done by the New York Board of Regents in systematizing and formulating the general scheme of public school education. Their results are as applicable to any

other State as they are to the commonwealth for which they were formulated. We are also greatly indebted to the vigorous work of the Michigan State Medical Board. The results of these efforts find expression in the standard minimum entrance requirements of the association. They guard the time element in providing for a full four-year high school course, and protest against cheap work and insufficient training by specifying the fundamental portion of that course.

As pointed out by Dr. Vaughan, of the University of Michigan, Dr. Harison, of Detroit, and Dr. Wheelock, of Albany, this clearly unequivocal and thoroughly pedagogical standard is far in advance of any yet put into effect by any other agency controlling general medical standards. It involves about one year of work more than the general requirement of a high school diploma, at present set forth by various authorities, and is practically in accord with the well-enforced requirement of New York, Michigan and Ohio, which represent the leading influences in regulating medical entrance requirements today, and also those of the American Confederation of Reciprocating, Examining and Licensing Medical Boards."

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### Correspondence.

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#### To American Physicians Interested in the Alcoholic Problem.

To the Editor:—During 1907 over 200 papers, lectures and pamphlets were published in Europe and America concerning alcoholism and inebriety from a purely scientific point of view. Many of the authors complained that these papers were practically lost because they did not reach medical men interested in the subject. The Scientific Federation Bureau, organized in Boston two years ago, for the purpose of collecting and disseminating the facts concerning the alcoholic problem in connection with the International Bureau of Europe, formed for the same purpose, proposes to secure a list of medical men who are interested in the scientific study of the alcoholic problem. This list will be valuable for authors and students who write on this subject and wish to address a special audience of physicians, not only to increase their interests, but to stimulate more exact studies of the subject. Such a list will enable the Bureau to extend its work of ac-

cumulating papers and reprints of all that is written, and keep authors and readers familiar with what is being done. All physicians who are interested in the scientific study of the alcoholic problem and the research work and studies of medical men at home and abroad on this subject are urged to send their names and addresses so as to be registered and receive copies and abstracts from authors and others who may wish to have their work read by interested persons. As chairman of the board of directors of the Scientific Federation Bureau, I urgently request all physicians interested in this study to send me not only their own names, but lists of medical men who would care to keep in touch with the most important literature coming from the press, and to know the latest conclusions in the scientific world concerning this problem.

Address T. D. Crothers, M. D., Chairman, Hartford, Conn.

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### News

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Dr. Mortimer Willson has been re-elected president of the Port Huron Hospital and Home Association. The hospital recently received a bequest of \$2,000 from the late Charles Baer.

The new addition to the Michigan Hospital for the Insane at Kalamazoo is nearly completed. It will accommodate 100 patients and the necessary attendants, and will be used as a receiving ward for female patients.

The Rockefeller Institute for Medical Research is to award during the coming year a few scholarships of from \$800 to \$1,200 each for work to be carried on in the laboratory of the Institute in New York. They are open to properly qualified men and women, and require the entire time of the holders. Dr. L. Emmett Holt, the secretary, West 55th street, will receive applications not later than April 1, appointments will be announced May 15, and service will begin about October 1.

At a public meeting in Munising, February 6, plans were adopted for a thoroughly equipped general hospital.

Dr. I. H. Neff, Pontiac, has been appointed superintendent of the Massachusetts State Hospital at Foxboro, and took up his new duties April 1st.

An antituberculosis society has been formed at Marshall, of which Dr. Starr K. Church, city health officer, is president. In Muskegon a similar society has been organized with Dr. Frank W. Garber as president.

The long controversy concerning the proposed site of the contagious disease hospital in Detroit has been settled, at least for the present. Judge Brooke has decided that there is no reason for a permanent injunction, restraining the city from building such a hospital in the proposed locality, and the suit is therefore dismissed.

Thirty directors of the State Society for the Study and Prevention of Tuberculosis have been chosen by the committee appointed at the first meeting in Detroit, February 21. The directors, who will meet in Detroit again on March 21 to elect officers and complete the organization, are as follows: Mrs. Caroline Bartlett Crane, Kalamazoo; Mrs. Frances W. Smith, Hastings; Mrs. Huntley Russell, Grand Rapids; Dr. V. C. Vaughan, Ann Arbor; Rev. W. F. Jerome, Hillsdale; Dr. C. H. Johnston, Grand Rapids; Mrs. Louis Blitz, Dr. H. J. Hartz, Dr. C. G. Jennings, Miss Clara E. Dyar, Dr. G. L. Kiefer, Mrs. L. J. Gretter, Mrs. W. J. Chittenden, Jr., Miss Henrietta Morrison, Dr. J. B. Kennedy and David Heineman, Detroit; Dr. A. S. Warthin, Ann Arbor; Dr. J. W. Inches, St. Clair; Dr. E. T. Abrams, Dollar Bay; Dr. George Dock, Ann Arbor; Luke Sugers, Holland; Rev. R. E. Macduff, Jackson; Dr. Herman Ostrander, Kalamazoo; Dr. A. W. Hornbogen, Marquette; Dr. F. W. Shumway, Lansing; Rev. J. P. Sanderson, Lansing; W. A. Comstock, Alpena; Dr. F. W. Garber, Muskegon; Dr. William Delano, Grand Rapids; Dr. Samuel Dickey, Albion.

Dr. Douglas Rothschild, formerly assistant city physician in Detroit, has accepted an appointment as surgeon for the Duluth, South Shore & Atlantic Railway, at Calumet.

Dr. John J. Stoner, of Grand Rapids, charged by Albertus Nyland, acting for the State Medical Board, with a violation of the medical law by improper newspaper advertising, was acquitted by a jury in the superior court.

Dr. Wesley Robbins, a negro physician of 208 Woodward avenue, Detroit, was recently sentenced to three months' imprisonment and a fine of \$300 for using the United States mails to advertise illegal practice.

Dr. J. S. Jackson, of Detroit, has removed to

Alpena, where he has entered into partnership with Dr. H. L. Shupert.

The Minneapolis College of Physicians and Surgeons, the medical department of Hamline University, has been merged into the College of Medicine and Surgery of the University of Minnesota.

Several more colleges of medicine have advanced their requirements for admission. The University of Colorado School of Medicine and the College of Medicine of Syracuse University have announced that beginning in 1910 all applicants must have completed two full years in a college of liberal arts. The College of Physicians and Surgeons of Chicago and the Indiana Medical College will require, beginning in 1910, one full year of college study.

Dr. W. S. Tompkinson, of Kalamazoo, fell and suffered a fracture of the ankle on February 25th.

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## Marriages

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S. M. Kaufman, M. D., Detroit, to Miss Clara Enushensky, of Galt, Ont., January 14.

Charles F. Schram to Maude B. Martin, M. D., of Battle Creek, February 26.

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## Deaths

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Charles Hamilton Morse, M. D., for many years a practitioner of Weymouth, N. S., died at his home in Marquette, February 3, from cerebral hemorrhage, after an illness of five months, aged 70.

Augustus F. F. Ferguson, M. D., died at his home in Lansing, February 23, from valvular heart disease, after an illness of more than a year, aged 60.

Erastus Berry, M. D., of Bellevue, for more than 50 years a practising physician, died early in March, aged 84.

E. H. Lathrop, M. D., the oldest practitioner of homeopathy in Barry County, died on March 7, of Bright's disease, in Hastings, aged 69.

Miar McLaughlin, M. D., of Jackson, died March 3, in Tampa, Fla., where he had gone for his health, aged 68.



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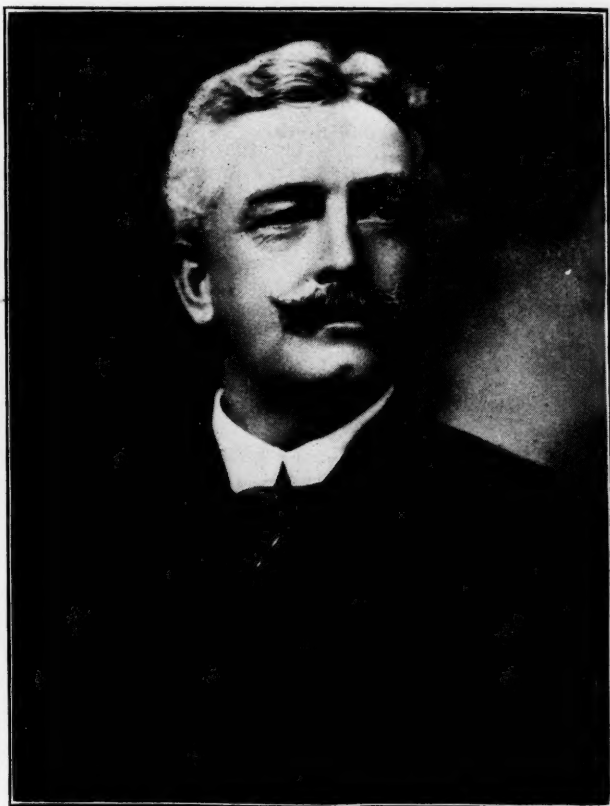
**Obituary**

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Dr. Hal C. Wyman died at his home, 42 West Adams avenue, Detroit, at 8:30 o'clock Monday morning, March 9, of pneumonia, after an illness of only five days.

Dr. Wyman was born in Anderson, Ind., March

father, which he continued till 1879, when he removed permanently to Detroit. It was soon after this that he became affiliated with the Detroit College of Medicine, in the department of physiology. His ability and personality won attention and respect at once, but when friction in the faculty developed, he, with others, resigned. He then founded the Emergency Hospital and the Michigan College of Medicine and Surgery, of which he was always president.



**Dr. Hal C. Wyman**

22, 1852, the son of Dr. Henry Wyman and Zelinda Carpenter Wyman. At the age of 12 he removed with his family to Blissfield, Lenawee county, whence he was sent to the Michigan Agricultural College. At the age of 17 he commenced the study of medicine with his father and a year later entered the medical department of the University at Ann Arbor. He graduated in 1873, continued his studies abroad during the following year, and on his return took up practice with his

Dr. Wyman was twice married, first to Mrs. Thompson, of Adrian, who died several years ago, and in 1906 to Miss Lulu Weeks, of Detroit, who survives him. He had three daughters by his first wife, but they all died before the mother. He was a member of the Masonic order, of the Sons of the American Revolution, of the Detroit Club, and the Detroit Boat Club. He served twice on the state board of corrections and charities, with an activity that was characteristic of

the man. He had always numerous interests outside of his profession, among which were the study of history, literature, and the maintenance of his large farm near Gibraltar on Lake Erie.

In the medical profession of the city and state he has for many years been a conspicuous figure, and indeed he was considerably known beyond the limits of Michigan. He was a member of the County Society, and in 1891 its president, and the same year was a vice-president of the American Medical Association; he was also a member of the Northern Tri-State and the Michigan Surgical and Pathological Societies.

Dr. Wyman's whole life was marked by industry; he had a large practice, including many poor, to whom he gave his services liberally. He was a constant reader, not only in medicine, but in those outside subjects that claimed his interest; he contributed numerous medical writings to current journals, and was a frequent speaker at medical meetings. He was a good organizer and executive, as attested by the hospital and school which he established. A man of unquestioned ability, he possessed also an immense personal magnetism which helped largely in his success. He was always genial, never criticised harshly, never failed to give valuable counsel to younger men who sought it. He had a fine physical presence, which lent great force to his natural facility in speaking; he was never at a loss for apt remarks, no matter how extemporaneous, and he could invariably draw from his own rich experience for happy illustrations.

Such, in brief, was the career and the character of a physician who will be sincerely mourned and whose place can with difficulty be filled.

#### **Resolutions Adopted by the Detroit Academy of Medicine upon the Death of Dr. H. C. Wyman.**

*Whereas*, an all-wise Providence has removed from our midst our co-worker and brother practitioner, Dr. Hal. C. Wyman, and

*Whereas*, Dr. Wyman was an active member of the Detroit Academy of Medicine for the period of 28 years, during which time he contributed many valuable papers pertaining to scientific subjects, medicine, historic research and current events of interest to his beloved profession.

In his work and writings Dr. Wyman drew from a large fund of general and special knowledge, obtained from study, observation and travel,

giving his opinions at once special value to his patients, and the respect and confidence of his confreres. A strong trait in Dr. Wyman's character was industry and application, hence the practice of the arduous duties of his profession drew largely upon his physical endurance, but found him responsive to the last, and he died, as he had lived, rendering services to his fellows.

The Detroit Academy of Medicine will miss his genial presence and his wise counsel, as will his hosts of friends and patients; with them, we express our deep sorrow at his untimely passing from us;

*Therefore, be it resolved*, that the Detroit Academy of Medicine feels deeply the loss of our esteemed brother and extends to his family and friends our heartfelt sympathy in their affliction; that a copy of these resolutions be forwarded to the family, the public press and the medical press, and be it further resolved that these resolutions be spread upon the records of this Society.

L. E. MAIRE,  
LEARTUS CONNOR,  
JAMES A. WINTER,  
*Committee.*

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One is wise in making assurance doubly sure by tying each fascial suture with three knots instead of two.—*American Journal of Surgery.*

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The tension on the sutures after an operation for epigastric hernia may be relieved by placing a pillow under the knees and propping the patient up in bed.—*American Journal of Surgery.*

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One should watch carefully for overdilatation of the bladder in all cases of lesions of the spinal cord. In children the bladder has been known to distend sufficiently to hold 20-40 ounces.—*American Journal of Surgery.*

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In the case of a urethro-vaginal fistula, the vaginal opening can readily be discovered by the injection of methylene blue into the bladder and noting its escape through the vagina. If, however, the opening communicates with the ureter, the blue fluid cannot be seen. In such a case, a catheter at times can be passed directly from the vaginal opening into the ureter.—*American Journal of Surgery.*

## Progress of Medical Science

### MEDICINE.

Conducted by

T. B. COOLEY, M. D.

**Trichomonas Hominis Intestinalis.**—FREUND reviews quite exhaustively the literature regarding this parasite, and adds some important new, personal observations regarding its biologic characteristics, made in the course of careful study of ten cases in Dock's clinic. Of these ten cases there were several in which the trichomonas infection was undoubtedly of secondary importance, as, for example, two of pernicious anemia and one of typhoid fever. In the majority, however, it would seem to have been the chief etiologic factor, and in all there were symptoms obviously attributable to it, and similar to those reported by other observers. The most important of these are: severe abdominal pain at the onset, often colicky in character, radiating from side to side, and more or less constant, being relieved when at its height by nothing but opium; and diarrhea, not necessarily very frequent; but the stools are nearly always unformed or fluid, usually yellowish brown and invariably alkaline. Anemia and loss of weight are common. Calomel in small regular doses, seemed to be the most efficient drug for destroying the organisms, and after its administration for a time the diarrhea and pain usually cease, and the patient recovers. The method of entrance of the parasite is probably through the ingestion of spores with food and drink. The commonest site of infection and ulcerative lesions is the first part of the colon, though the small intestine can often be shown to contain great numbers of trichomonads. The intestinal changes are probably caused by toxins. The organism is short-lived outside of the body, and quickly destroyed by heat and dessication, so that for its detection the examination of fresh stools on the warmed stage, or a special staining technic is necessary.—*Archives of Int. Med.* Vol. 1 No. 1.

**Pulse and Blood Pressure Changes in Aortic Insufficiency.**—STEWART studied the changes in the arterial blood pressure and the ventricular volume and pressure in dogs in which aortic insufficiency had been artificially produced, his object being to discover some more satisfactory explanation of the pulse peculiarities than the obviously incorrect one of regurgitation. His paper, illustrated with numerous tracings, indicates careful and accurate work. He summarizes his chief conclusions as follows:

1. The work of Henderson is confirmed in that the cardiac cycle is not diphasic but triphasic, and consists of systole, diastole, and diastasis, or the period of rest.
2. The production of aortic insufficiency in the dog increases the systolic output of blood by only a fraction of a cubic centimeter.
3. The volume of blood which regurgitates is negligible.

4. The transmission of pressure (from the aorta) to the ventricle increases the ventricular tonus.

5. It also produces a reflex inhibition of the vaso-motor center.

6. The fall of pressure in aortic insufficiency is due to the diminished peripheral resistance thus induced, and is not caused by loss of blood from regurgitation.

7. The increase of pulse pressure—the difference between maximum and minimum pressure—is due to a lowering of the diastolic pressure. There is no increase in the systolic pressure.

8. The main fall in pressure is systolic in time, and is due to an increased blood flow through the capillaries.

9. So long as the tonus of the ventricle is maintained, a slowing of the heart rate does not favor increased regurgitation.—*Arch. of Int. Med.*, Vol. 1, No. 1.

**Blood Cultures in the Diagnosis of Typhoid Fever.**—PEABODY has applied a simplified method to the study of a series of cases at the Massachusetts General Hospital. He uses test-tubes containing 5 c. c. of fresh oxgall, sterilized in the autoclave, and takes the blood from the patient's ear, to avoid the complicated procedure and disturbance of the patient involved in taking it from a vein. The lobe is pierced with a small lancet pointed knife, and by careful manipulation 1 to 2 c. c. can be made to run into the tube. Not more than 2.5 c. c. should be added to 5 c. c. of gall. The mixture is incubated for 15 hours. At the end of this period several loops are transferred to blood serum, and after 3 to 5 hours' incubation of this culture, motile-organisms may be found in the water of condensation. A transfer is made from this to agar for a stock culture. Possible contamination by the staphylococcus is usually overcome by the more rapid growth of the typhoid bacillus. Cultures were made from 33 cases in which the diagnosis of typhoid was made either by the Widal reaction or by positive culture; 60% of the cases in the first week of the disease gave the agglutination test, and 100% positive cultures; of those in the second week 73.6% agglutinated, and 78.9% gave positive cultures; of those in the third and fourth weeks 77.7% agglutinated, and 44.4% gave positive cultures. In 27.2% of the total number, the positive culture preceded the agglutination reaction by from 3 to 7 days. In one case agglutination was never obtained. In one case positive cultures were obtained on admission and again during a relapse, while during the afebrile period and at the beginning of the relapse the cultures were negative. Peabody considers the process a simple and valuable one for early diagnosis.—*Archives of Int. Med.* Vol. 1, No. 2.

## GYNECOLOGY AND OBSTETRICS.

Conducted by

B. R. SCHENCK, M. D.

**Early Recognition of Uterine Cancer.**—An address delivered by Chipman before the Canadian Nurses' Association contains such excellent advice, put in such an excellent form, that it is worthy of quotation:

"What I wish specially to mention to you to-night is the question of uterine cancer, making special reference to its early recognition. By what signs does it first make itself evident? It is these signs that I wish to impress upon you, for it is in your hands often that the responsibility rests. The woman confides in you more readily oftentimes, and naturally so, than in her physician. First, let me make a general statement, which I wish you always to keep in mind, and it is this: Any woman who has passed the change of life—by that I mean where her normal menstruation has for some months or years ceased, and who informs you that the menstruation has returned (she often laughingly, or almost boastingly, informs you of this fact, claiming that she has renewed her youth, that she is becoming young again)—I say, anyone who informs you of a blood-loss from the vagina after a period of amenorrhea, at the time of the menopause, treat it as a very serious matter. Question her closely, and if a recurrence of hemorrhage should take place, simply insist that she seek the advice of her physician. By doing this only will you be doing your duty. By doing this you will save lives.

"I wish, then, to draw your attention to three chief signs of early uterine cancer. I am speaking now of women who are at or past the climacteric. For it is at that time that cancer is most likely to manifest itself. The most suspicious sign is, as I have intimated, hemorrhage—irregular hemorrhage, often small in amount, often bright red and occurring irregularly. Let this sign make you always very suspicious. Let this sign make

you always insist that a careful vaginal examination be made by the woman's physician.

"The next most important early sign is a leucorrhea. By that I mean any discharge other than blood. Frequently it is thin, watery, meat-watery, as it is called, being slightly blood-stained. Sometimes it is brownish, and sometimes yellow. Any persistence of such discharges in a woman, especially after the menopause, should make you again suspicious of the presence of early cancer.

"The third sign, and the least important, is pain. Unfortunately, when the woman begins to complain of pain the condition is usually past surgical help.

"So I do not ask you to rely at all upon the symptom of pain. Do not wait for it. Hold in your minds the two signs that I have spoken of: hemorrhages, irregular hemorrhages, and persistent leucorrheal discharges. Whenever in your practice you meet women who speak to you of these things, treat the condition as being possibly very serious, and insist that they seek medical advice."—*Canadian Practitioner*—March, 1908.

**Decapsulation of the Kidney in Eclampsia.**

FRANCK reports one case of decapsulation for eclampsia and reviews nine other cases from the literature. In these 10 cases, the operation was followed by rapid recovery in 6; 2 patients were unimproved; 2 patients showed some improvement, although it was not marked. In 8 cases the delivery had preceded the operation, including one in which there was no improvement. Even though a mortality of 30% follows the operation when done for eclampsia, this is so much better than the mortality of seven cases of eclampsia, without operation, that FRANCK recommends the procedure in all severe cases.—*Munch. med. Woch.* Dec. 10, 1907.



## PHARMACOLOGY AND THERAPEUTICS

Conducted by

H. A. FREUND, M. D.

**Cardiac Failure in Pneumonia.**—In acute pneumonia, the second cardiac sound over the pulmonary artery is frequently found to be accentuated. This sign is a valuable one, and gives the practitioner an indication as to the condition of the pulmonary circulation. The pulmonary second sound becomes very much less distinct when the right auricle and ventricle become distended, and the right ventricle is unable to completely empty itself. As the right side of the heart becomes engorged, there is usually found to be an increase of the cardiac dullness to the right of the sternum. "With gradual heart weakness and signs of dilatation, the long pause is greatly shortened, the sounds approach each other in tone, and have a foetal character (embryo-cardia)." Occasionally, as early as the third day in a case of acute lobar pneumonia, there may be a sudden and early collapse of the heart, the pulse becomes rapid and feeble, and there is an increasing cyanosis. For this cardiac failure in acute pneumonia, the immediate exhibition of heart stimulants is indicated. Administration by mouth should not be resorted to, but hyperdermic of strychnine or intravenous injections of tincture of digitalis or a hypodermic of ether should be given at once.

In some cases, the cardiac failure is due to the paralysis of the vaso-motor center, which is situated in the lower part of the floor of the fourth ventricle, and there is consequently a general fall of arterial blood pressure; this is due chiefly to the action of the toxin upon the nerve centres. In this condition, the pulse becomes soft and easily compressible, the facies gray, the hands and feet cold, the skin bathed in a cold sweat, and there is a progressive prostration.—*Practitioner*, London, March, 1908.

**Calcium Chloride in Albuminuria.**—RENON, in an address before the Therapeutic Society of Paris, recommends the use of Calcium Chloride as a supplementary measure to rest and diet in the treatment of albuminuria. He recommends beginning with  $1\frac{1}{2}$  grs. per day and gradually increasing the dosage. The method may be persisted in for some time. He reports some excellent results with this method.—*Semaine Medical*, November, 1907.

**The Treatment of Uremia.**—OSBORNE sums

up the treatment of uremia as follows: Absolute muscular rest. Food must be withheld even to the giving of milk. Very little water, if any, should be administered by mouth even if there is no edema. Frequent colon irrigations of hot water may be given, especially if the blood pressure is secondarily low. He recommends the administration of thyroid. Hot sponging of the skin may be considered a routine measure. The author thinks that venesection in most cases will remove more toxins from the blood than eight or nine times the amount of water eliminated through feces or perspiration. Nitro-glycerine is recommended in high tension cases. When the uremic period is passed and the kidneys begin again to secrete and excrete the diet and life of the patient becomes of primary importance.—*Journal of the American Medical Association*, Aug. 24, 1907.

**The Craving for Sweets in Diabetic Patients.** ROPPERGER says that while the loss of calories resulting from the exclusion of sugar from the diet of diabetes can easily be replaced, still the patient craves sweets, and he notes the recent recognition of the nutritive value of sugar. The only safe substitute is saccharin, and the author's paper is largely devoted to a consideration of this substance. He reviews the literature of the question and declares that the restrictions placed on its use in continental countries have been instituted by the cane and beet sugar growers who look to their own revenue. Saccharin has no nutritive value, and clinical experience appears to show that its use as a condiment is attended with no deleterious effects. It will prevent fermentation, but there are other preferable remedies for this object. It does not in any sense cure diabetes. It only satisfies, and that in a perfectly safe way, the craving for sweets. It should not be used in such large doses as to cause repugnance and nausea. Out of twenty-six replies to a circular letter sent out by the author to various physicians twenty-two stated that the respective writers considered saccharin a harmless addition to foods and beverages. One writer was doubtful about the matter and three failed to express any opinion on the matter. The average dose seems to have been about three grains three times daily.—*New York Medical Journal*, July 13, 1907.

## PATHOLOGY AND BACTERIOLOGY

Conducted by

C. S. OAKMAN, M. D.

**Splenomegaly and Banti's Disease, with Report of a Case.**—J. P. SIMONDS summarizes 33 cases of Banti's Disease from the literature, and describes in detail a case in the Presbyterian Hospital of Chicago, including clinical observations, hematology, and autopsy findings. He concludes that "there are two distinct conditions associated with idiopathic anemia and enlargement of the spleen. One begins usually in patients over twenty years of age; is characterized by chloro-anemia, leucopenia, enlargement of the spleen, and quite frequently by gastro-intestinal hemorrhages, ascites, pigmentation of the skin, very rarely by jaundice; and anatomically shows fibrous hyperplasia of the spleen with, frequently, cirrhosis of the liver, and varicose veins in the lower esophagus and cardia. The other occurs most often in young people and shows a family tendency; manifests itself clinically by an anemia with low color index, absence of leucocytosis, enlargement of the spleen, a prolonged course, hemorrhages from the nose and gums or under the skin and mucous membranes, and, less frequently, by jaundice and brownish pigmentation of the skin; and is characterized anatomically by diffuse proliferation of endothelium in the spleen and sometimes in the liver and retroperitoneal lymph glands."—*Journ. of the Infectious Diseases*, Jan. 30, '08.

**Comparative Studies of Spirochetes.**—With a view to showing that *Spirocheta pallida* can be well differentiated from other spirochetes, P. MUHLENS describes all known varieties. Preparations of the *Sp. pallida* are stained by the Giemsa and the Levaditi method. Its chief characteristics are: length, 4-20 microns, thickness  $\frac{1}{4}$  micron; ends pointed, with often a flagellate continuation, which is demonstrable with Löffler's stain; living forms are weakly refractile; spirals, 6-20, regular, short, deep, retaining the form in motion, also in fresh preparations after death; length of spiral 1-2 microns, depth  $\frac{2}{3}$  micron; limit of motion not large, rotation around its long axis, forward and backward movement, and bending of whole structure; stains with difficulty, negative to Gram's method, bright red with Giemsa's stain, ends very pointed; regular, abrupt, corkscrew spirals, which occur most similarly in *Sp. pallidula s. pertenuis*, in tropical Framboesia. In poor smears, either because of degeneration or development, we find forms varying from the usual type.

The *Sp. refringens* is longer and noticeably thicker than the *Sp. pallida*; living forms are strongly refractile, with 3 to 15 irregular, broad, flat, spirals, which alter in motion; active motility, better staining qualities, easily taking Giemsa's stain and blue or violet, negative to Gram.

The *Sp. balanitidis* is considered by the author as identical with the *refringens* and not pathogenic.

The *Sp. Duttoni* of African relapsing fever has 3 to 12 uneven, broad, often very deep, but widely undulating spirals, and stains readily blue or violet by Giemsa, although sometimes certain portions remain unstained.

The *Sp. Obermeieri* of European relapsing fever much resembles the previous named variety, as well as the *Sp. gallinarum* and *Sp. anserina*.

The author considers the *Spirochetae* to be protozoa.—*Zeitscher. f. Hygiene u. Infektionskrankheiten*, Bd. 57, 1907, H. 3, p. 405.

**Fibromyomata Uteri. A Study of the Degenerations, Complications, and Associate Conditions in Three Thousand Five Hundred and Sixty-one Cases.**—STEPHEN E. TRACY reaches the following conclusions: 1. That a large percentage of fibromyomata uteri undergo some form of degeneration, but that the majority, 64.9 per cent, of degenerations take place in women who are forty or more than forty years of age, or, in other words, after the menopause. 2. That fibromyomata uteri and visceral degenerations are found associated in a large number of cases. 3. That young women who are anxious for maternity and possess small tumors which are causing no symptoms, need not be subjected to operation, but should be instructed to report for examination as soon as symptoms develop. 4. That all fibromyomata uteri which produce symptoms, regardless of the age of the patient, and all fibromyomata uteri in women forty or more than forty years of age, should be removed when diagnosed, because the mortality following operation, below 5 per cent, is less than the risk of carrying the tumor, as from 12 to 14 per cent of these patients would die if not subjected to operation. 5. That a supravaginal hysterectomy is the operation of election because of the ease and rapidity of its execution, and last, but not least, because it is followed by the lowest mortality and should be performed in all cases where a myomectomy is not indicated and where a panhysterectomy is not demanded. 6. That many of the associate conditions would cause death if the patients were not subjected to operation, but the mortality in these cases should not be added to the estimated mortality of fibromyomata uteri as they are independent lesions, and are in no way connected with the tumor except that the conditions coexist. 7. That a thorough pathological study should be made of all fibromyomata uteri which are removed, because of the malignant changes and the degenerations which take place in these tumors.—*Surgery, Gynecology, and Obstetrics*, March, '08.

## PEDIATRICS

Conducted by

R. S. ROWLAND, M. D.

**Inherited Syphilis.**—In the opening address before the Society for the Study of Diseases in Children, November 13th, 1907, R. CLEMENT LUCAS makes the following suggestive remarks:

The cause of syphilis, whether inherited or acquired, is the presence in the blood and tissues of the same organism, *spirochaeta pallida*, which can be demonstrated in the various secondary lesions, in the blood, and in the internal organs.

The discovery of the cause necessitates the rearrangement of our former views as to the transmission. Inheritance from the father alone is now put out of count, and it follows that infection of a mother by her syphilitic fetus can never occur. Inheritance is invariably through the syphilised mother.

It would seem that when virulent, the spirochaetes penetrate the chorion or placenta and occasion miscarriage, macerated fetuses, or premature births; but when the virus is attenuated by time or treatment the placenta forms a complete protection to the developing fetus, and it is the separation of the placenta at birth which allows the infection to take place through the umbilical vein. Hence the regularity of the secondary exanthematous stage from a fortnight to three months after birth. In these cases the separation of the placenta is the first stage, and corresponds to the chancre of acquired syphilis.

Hitherto Colles' law has been used as an argument in support of the view that the mother may get a mild form of syphilis from her syphilitic fetus, whose syphilis is supposed to be derived entirely from the father. But the law of immunity will remain equally true if it is to be supposed that the mother is first inoculated by the father, a large dose of protozoon causing an obvious eruptive syphilis and a small dose a syphilis which misses the eruptive stage.

Syphilis in a man is generally admitted to be capable of transmission to a succeeding generation for a much shorter time than syphilis in a woman, and this supports the view, viz: that for transmission it is necessary that the woman be first infected.

The question whether the milk of a syphilitic female may infect a healthy infant at the breast has been much discussed. If Voss's experiment is to be trusted, milk has been directly inoculated, but the milk of a syphilitic woman, when received into the alimentary tract of an infant, need not convey any infection to the child.

It is obvious, as the greater cannot be included in the less, that a spirochaeta cannot be carried in a spermatozoon, but this does not exclude the possibility of the spirochaetae being conveyed by the fluid part of the semen.

Transmission to the third generation is another question open to discussion. If the tertiary symptoms, occurring ten or twenty years after inoculation, can be proved to be due to renewed activity of the spirochaetae in certain situations, there seems to be a fair possibility of their being carried to the third generation. In this connection LUCAS mentions a case where the parents were syphilitic and their infant showed no symptoms of inherited syphilis while under observation.

There is probably no disease responsible for such an enormous destruction of life in its earliest stages as that caused by syphilitic parentage. This mortality is greater in those families where both parents have suffered from chancre syphilis and obvious secondaries. The severity of the infection and ineffective treatment or lack of treatment are the two factors which determine the mortality.

In conclusion he emphasizes the importance of weighing carefully all the evidence before determining that a particular affection is due to inherited syphilis. Every deformity from a dislocated hip to cleft palate, all defects such as hernia, infantile paralysis of various kinds and even naevi have been described as dependent on inherited syphilis, and as if better to cover the anomalies, the term "parasymphilis" has been invented to add to the confusion.

We do not deny that persons whose constitutions have been weakened by disease are liable to produce degenerates in succeeding generations; but in future the most certain test of the disease being syphilis will be the presence of the *Spirochaeta pallida* in the part affected.

The organism has an extraordinary persistency producing local symptoms after lengthened periods, but happily we have in mercury and the iodides drugs which control its development and bring about its destruction. Metchnikoff has recently shown that sometimes, after direct inoculation, the application of a calomel ointment to the sore is sufficient to kill the organism and prevent of the occurrence of secondary symptoms.

—*British Journal of Children's Diseases*, Jan. 1908, p. 1.



## ORTHOPEDIC SURGERY.

Conducted by

W. E. BLODGETT, M. D.

**Concerning the Etiology and Treatment of Congenital Talipes Calcaneo-Valgus.**—STERN reports twenty-three cases and comes to the following conclusions:

First. Besides the recognized changes in the form and position of the foot, one of the leading characteristics of congenital talipes calcaneo-valgus is the muscle unbalance consisting in passive contractures in the dorsal flexors and peronei muscles and overstretching, lengthening, relaxation and atrophy of the plantar flexors and supinators and tendo Achilles.

Second. These muscle changes are not dependent upon changes in the central nervous system but are due to forced position of the foot within the uterus in pronation, abduction and dorsal flexion.

Third. This forced position is due to an abnormal intrauterine pressure usually coming from a partial lack of liquor amnii.

Fourth. All cases should be treated as early as possible by means of overcorrection and fixation.

Fifth. Both the type of the muscle unbalance and the results from such static treatment are additional proof of the pressure theory.—*Am. Jour. of Orthopedic Surg.*, Vol. V., No. 3, p. 276.

**Acute Osteomyelitis of the Shaft of the Humerus—Removal of the Shaft—Complete Reproduction of the Bone.**—SCUDDER reports a case of a girl 13 years old with virulent infection of the humerus by the staphylococcus pyogenes aureus. The condition, before being seen by SCUDDER, was supposed to be acute rheumatism of the shoulder, which had been painful, tender and swollen for two weeks. Incision through the deltoid liberated pus, and discovered the humeral shaft bared of periosteum for two or three inches. The cortex was removed till normal medulla appeared. The medulla was undisturbed by instruments, and was only washed with salt solution. Four days later, a similar procedure and drainage was required at the lower end of the humerus. A succession of radiographs, which are reproduced in the article, showed a progressive periosteal proliferation and indicated the time for the removal of the necrotic shaft, ten weeks after the onset of the infection. By this time the periosteal layer was thick and resistant as a thick egg shell and was saturated together after removal of the dead shaft by interrupted catgut. Buckling of the periosteal skeleton of the humerus was prevented by an internal angular splint and suspension of the arm to an overhead cradle, thus making traction on up-

per arm. Four weeks later the necrotic humeral head was removed. One year and four months after the first symptoms, the arm is useful and strong. The new shaft of the humerus, as shown by X-ray, is sound and nearly completely straight. Motion in shoulder and elbow is much restricted. Forearm practically normal. The life was saved by the early operation; a part of the function of the arm was saved by avoidance of needless damage in the first operation, and by removal of the sequestrum (shaft) at the opportune time, with suture, splinting and traction of the proliferating periosteum. Life in the open air and sunshine, from the moment of the first operation, hastened convalescence from the infection.—*Surgery, Gynecology and Obstetrics*, Feb., '08, Vi. 2, p. 169.

**Observations on the Treatment of Fracture of the Neck of the Femur in 112 Cases.**—

WALKER finds that of 112 cases treated by the old method in Bellevue Hospital, New York, 18 died; 32 have not been found; 30 are unable to work because of persistent impairment of function through pain; through restriction of movement at the hip on account of shortening and abduction; through the necessity of dependence upon crutches. Twenty-two show improvement. Twelve have abandoned their crutches and are walking comfortably with a cane, but at times with some stiffness and occasional pain. They are beginning to do some work. Ten have recovered almost completely; they are free from pain and stiffness, and are able to do their normal work. Ten are still in the hospital.

In view of these unsatisfactory results under old methods, Walker advocates the method advised by Royal Whitman. This method consists of abduction to forty-five degrees, correction of the external rotation, and strong traction; under general anesthesia; the thigh in this position is put up in a plaster spica. Impaction, if present, is gently broken up. The author has treated four cases in this way. The cases were all fresh, not more than five days old; were allowed out of bed at the end of four weeks; plaster completely removed at end of eight weeks; allowed to bear weight on injured limb in from two to four months, crutches being used meantime; canes used after this time; at end of nine months all were doing their work without artificial support of any kind; at end of a year or more, the shortening varied from none to less than one-half inch, and abduction and flexion were normal in all the cases.—*Annals of Surg.*, Vol. XLVII, Jan., '08,